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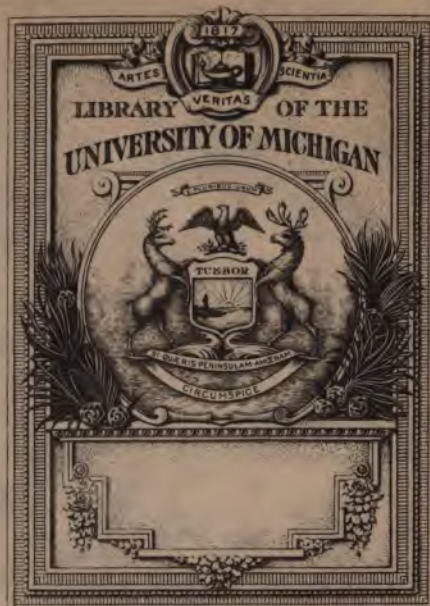
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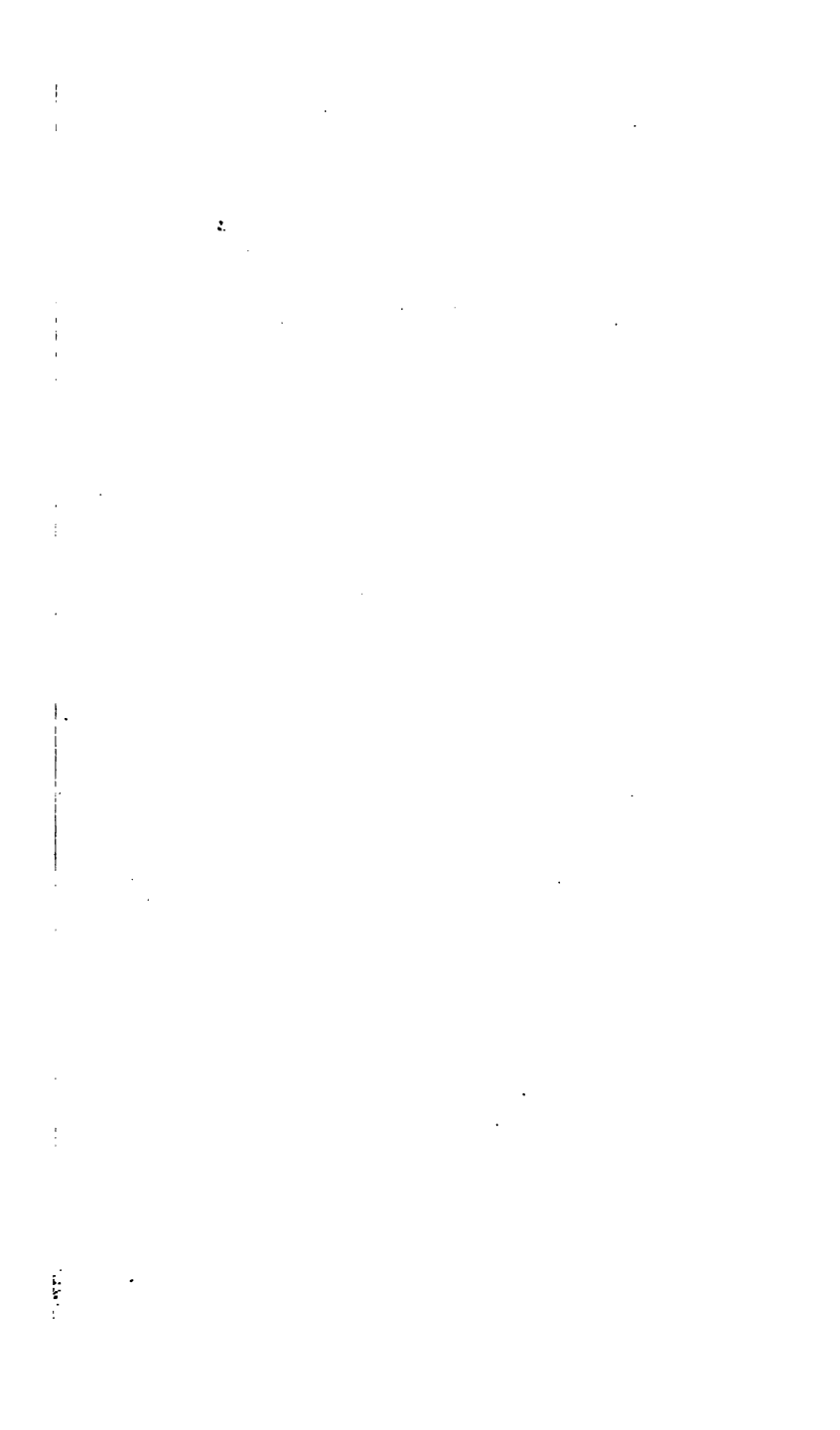
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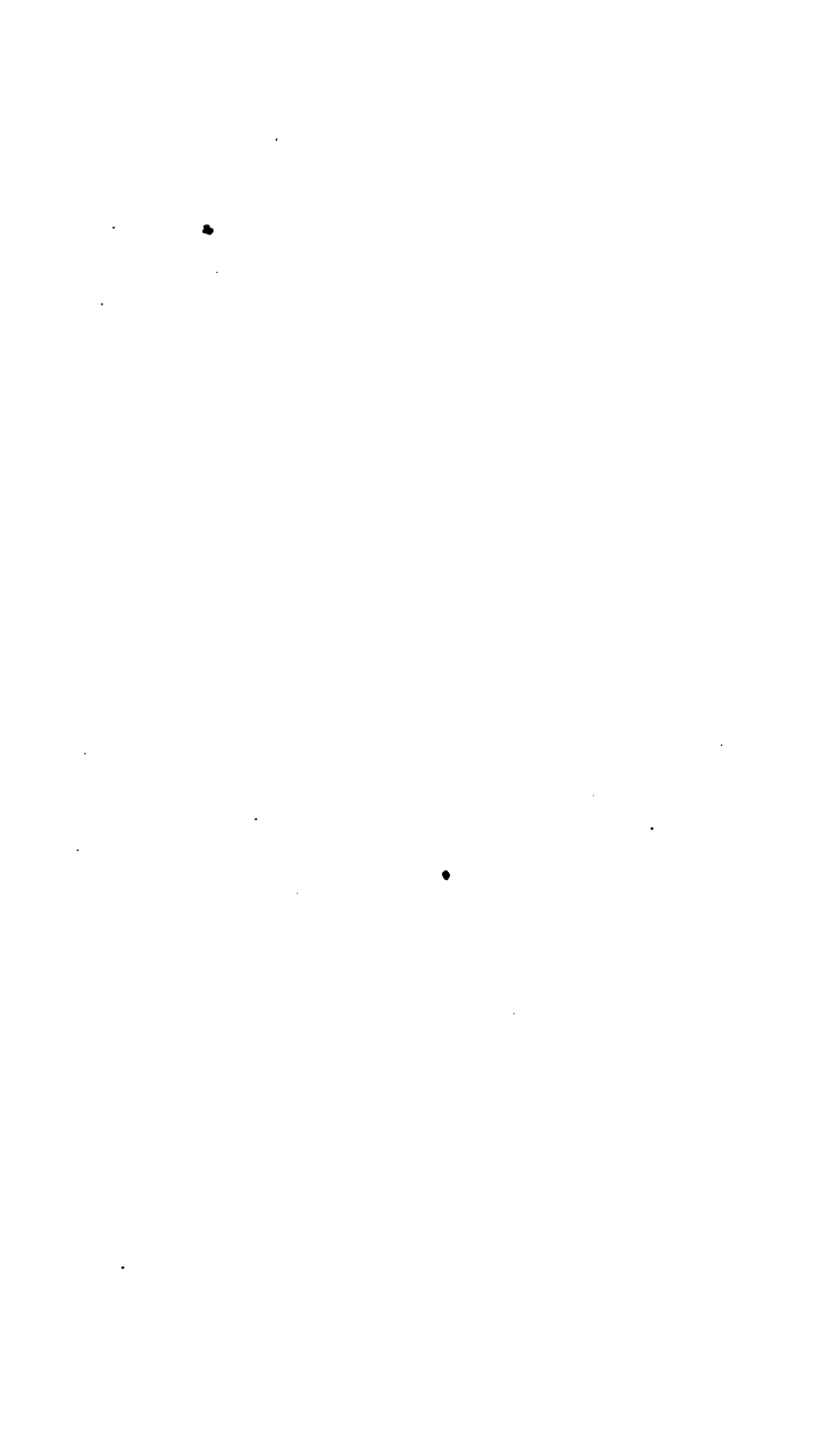
The following revised Rules and Regulations for the various Exercises laid down in this book having been approved, are to be observed and practised by the several Cavalry Regiments in Her Majesty's Service.

By Command of
His Royal Highness the Duke of Cambridge,
Field Marshal Commanding-in-Chief,

J. YORKE SCARLETT,
Adjutant General.



CAVALRY SWORD EXERCISE.



CAVALRY SWORD EXERCISE.

Introductory Remarks.

The following Instructions are progressively laid down as the surest and quickest mode of forming Swordsmen ; and the Drill Officers are to understand clearly, that when Recruits have completed their Preparatory and Drill Practices, *without* and *with* the sword, they need no longer be required to remember the precise order in which they are here given ; nor to repeat them, if sufficiently competent to go through the Review Exercises effectively, where every Cut, Point, and Guard, is shewn ; and the Swordsman ought to be made so perfect in each, as to be able to give any one separately, or such of them combined, as the Drill Officer may require.

SECTION I.

EXTENSION MOTIONS.

THESE motions tend to expand the chest, raise the head, throw back the shoulders, and strengthen the muscles of the back.

The squad being at "Attention," the caution is given :

First Extension Motions.

One—Bring the hand, arms, and shoulders to the front, the fingers lightly touching at the points, and the nails downwards; then raise them in a circular direction well above the head, the ends of the fingers still touching, the thumbs pointing to the rear, the elbows pressed back, and shoulders kept down.

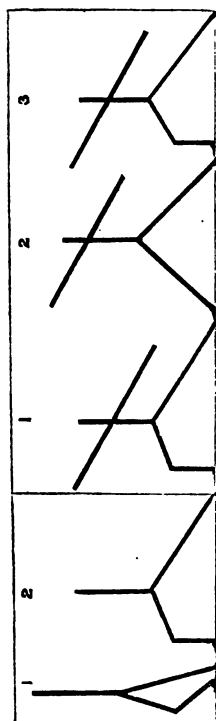
Two—Separate and extend the arms and fingers upwards, forcing them obliquely back, until they come extended on a line with the shoulders; and as they fall gradually from thence to the original position of "Attention," endeavour, as much as possible, to elevate the neck and chest.

Three—Turn the palms of the hands to the front, and press back the thumbs with the arms extended, and raise them to the rear until they meet above the head; the fingers pointing upwards, and the thumbs locked with the left in front.

Four—Keep the knees and arms straight, and bend over until the hands touch the feet, the head being brought down in the same direction, and resume the "Third Motion," by raising the arms to the front.

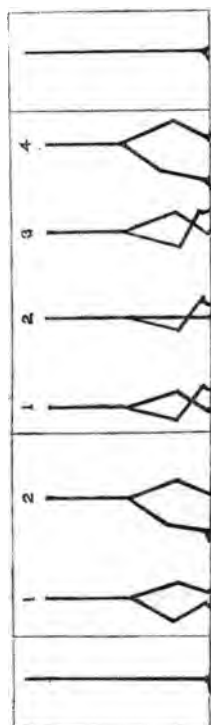
Five—Resume the position of "Attention," as directed in "Second Motion."

The whole of these motions should be done very gradually, so as to feel the exertion of the muscles throughout, and the "First" and "Second" occasionally practised with the head turned, as much as possible, to the right or left; and all the motions may be performed also, without any pause or separate word of command, so that they may lead into each other, the order in which they occur being occasionally varied.



Second Extension Motions.

Position in Two Motions.



First Position.

Balance Motions.

Second Position in 2 Motions.

First Position.



First Position in Three Motions.

One—Move the hands smartly to the rear, the left grasping the right arm just above the elbow, and the right supporting the left arm under the elbow.

Two—Half face to the left, turning on the heels, so that the back of the left touches the inside of the right heel, the head retaining its position to the front.

Three—Bring the right heel before the left, the feet at right angles, the right foot pointing to the front, and the weight of the body resting on the left leg.

Second Position in Two Motions.

One—Bend the knees gradually, keeping them as much apart as possible, without raising the heels, or changing the erect position of the body.

Two—Step out smartly with the right foot about eighteen inches, in line with the left heel, the weight of the body remaining on the left leg, the right knee easy and flexible.

Balance Motions.

One—Move the right foot about eight inches to the rear of the left heel, the toe lightly touching the ground, with the heel perpendicular to it, keeping the knees well apart.

Two—Raise the body gradually by the extension of the left leg.

Three—Bend the left knee, resuming the position made previous to the "Second Motion."

Four—Advance the right leg, give a smart beat with the foot, and resume the "Second Position," from which "Balance Motions" commenced.

First Position—Extending both knees, bring the right heel back to the left.

Third Position in Two Motions.

One—Incline the right side to the front, so that the shoulder and knee are perpendicular to the point of the foot, keeping the body erect.

Two—Step out smartly to the front, about thirty-six inches, the knee perpendicular to the instep ; the left knee and foot kept straight and firm, the heels in a line, the body upright, and the shoulders square to the left.

Second Extension Motions.

One—Bring the arms to the front of the body, with the hands closed and the knuckles uppermost, touching each other below the lower button of the jacket ; raise them gradually until the wrists, by bearing inwards, touch the breast, the elbows being kept up ; then, by forcing back the shoulders, the hands will be drawn apart, and the motion is completed by sinking the elbows, and smartly extending the arms and fingers in a diagonal line, with the right wrist as high as the head, the shoulders kept down, and the thumbs inclined to the right.

For beginners, this motion may be divided,—by giving the word *Prepare* for the first part, and remaining perfectly steady, when the hands are brought to the breast, ready to separate ; then give the word *One* for the motion to be completed.

Two—Raise the body by extending the right leg.

Three—Bend the right knee, and advance the body so as to resume the “First Motion.”

First Position—Spring up with the arms to the rear, and the right heel close to the left, which forms the “First Position,” as before described.

Front—Come smartly to the position of “Attention ;” bringing the hands and feet, in one motion, to their proper places.

In the foregoing Instructions, the Positions and Movements, preparatory to using the sword, have been explained, giving a separate word of command for each motion respectively. The same positions must now be gone through, naming only (in the word of command) the position required, in order to practise the Recruit in changing the positions readily, without losing his balance, and in quick time,—distinguishing them by the word of command, *First, Second, and Third.*

Positions.

First—Raising the arms to the rear, and the right heel to the front, come at once to the “First Position.”

Second—Come to “Second Position.”

First ,, “First Position.”

Third ,, “Third Position.”

First ,, “First Position.”

Second ,, “Second Position.”

Third ,, “Third Position.”

Second ,, “Second Position.”

Single Attack—Raise the right foot and beat it smartly on the ground.

Double Attack—Raise the right foot as before, and beat it twice on the ground—first with the heel, then with the flat of the foot.

Advance—Move forward the right foot about six inches, and place it smartly on the ground ; then bring up the left foot lightly about the same distance.

Single Attack—As before.

Retire—Move the left foot lightly to the rear about six inches, the weight and balance of the body being, and continuing to rest, upon it ; then move the right foot back the same distance, and place it smartly on the ground.

Double Attack—As before.

Front—Resume position of “Attention.”

The object of the preceding Positions and Movements is to give a free and active use of the limbs preparatory to using the sword.

The Instructor should prove the firmness of the position by bearing equally and firmly upon the shoulders of the Recruit during the changes in forming the “Positions”

and "Balance Motions ;" by taking hold of his right wrist with both hands, (when in the "First" of the "Second Extension Motions,") and bearing upon it, in the direction of the left leg, upon the line of which the right arm should be, if properly placed : and making him also in each position move the fore part of the right foot up and down, without its motion affecting the body, which must be generally balanced, and rest upon the left leg, thereby giving greater flexibility to the right leg in moving forward to gain distance upon an adversary—or *vice versâ*, in retiring from his reach. No precise length can be assigned in moving the right leg to the front in the "Third Position," as it depends upon the length and stride of the person ; but it should not be beyond what may allow of his returning to the "First" or "Second Position" with quickness and perfect facility to himself.

When this section is practised as a drill for the limbs only, it should be performed with the left shoulder and left foot to the front, as well as with the right.

SECTION II.

SWORD EXERCISE.

Preparatory Drill on Foot.

The Recruit having been perfectly instructed in the Marching, Position, and Carbine Drill, may now take the sword.

The Squad will be formed up at open files, "Standing at Ease," the sword hanging by the slings, the palm of the left hand resting on the sword hilt, the right arm hanging by the side, the right foot drawn back six inches, the left knee bent.

Attention—The sword to be brought upright by the side, the bottom of the scabbard resting on the ground, in front of the heel of the boot, the left arm extended, the hand round the scabbard, thumb in front, fingers in the rear.

March—Raise the sword smartly with the left hand at the first pace, without stooping or disturbing the position of the body, placing the forefinger below the lower ring of

the scabbard, the thumb and remaining fingers round it, the hilt touching the back part of the arm.

Halt—Lower the scabbard to the ground, as in the position of “Attention.”

Draw Swords—Bring the right arm smartly across the body to the sword knot, placing it on the wrist, and giving the hand a couple of turns inwards to make it fast, and as the handle is grasped, turn the hilt to the rear, and raise the hand the height of the elbow, the arm being close to the body ; by a second motion draw the sword from the scabbard with an extended arm, the edge being to the rear, and sink the hand until the hilt is on a level with the chin, the blade perpendicular, the edge to the left, and elbow close to the body, which forms the position of “Recover Swords,” then by a third motion bring the sword smartly down until the hilt is on a line with the elbow, the arm close to the body, blade perpendicular, the edge to the front, which forms the position of “Carry Swords.”

Slope Swords—Loosen the grasp of the handle, and let the back of the sword fall lightly on the shoulder.

Carry Swords—By a motion of the wrist and fingers, resume the grasp of the handle, so as to bring the blade upright, as before.

Return Swords—Carry the hilt to the hollow of the left shoulder, the blade being kept perpendicular, and the back of the hand to the front, then, by a quick turn of the wrist, drop the point into the scabbard, and resume the first motion in “Draw Swords ;” by a second motion let the sword fall smoothly from the hand, at the same time loosening the sword knot from the wrist ; by a last motion come smartly to the position of “Attention.”

Cuts—Guards—Points.

The Recruit having been perfectly instructed in drawing and returning his sword, will now be made acquainted with the strong and weak parts of it ; the “Fort” (strong) being the half of the blade near the hilt, the “Feeble” (weak) the half towards the point ; indeed, a knowledge of these distinctions is very material either in giving or guarding a Cut, as much depends upon their proper application. From the hilt upwards, in opposing the blade of an adversary, the strength of the defence decreases in proportion as the

Cut is received towards the point ; and, *vice versâ*, it increases from the point downwards.

The same grasp of the Sword is to be retained throughout the exercise, to ensure the true edge leading, the middle knuckles are to be in the direction of the edge in all cuts and guards, the grip of the handle being held by the thumb and fingers around it.

Prepare for Sword Exercise—Carry the right foot out to the right twenty inches, the left hand slightly closed a little below the pit of the stomach, being on the same line with the elbow, which will be nearly its height when holding the reins.

In the sword exercise dismounted, when acting on the right side (which should be drawn in), the weight of the body should be chiefly on the left leg, the knees bent so as to make the “single” or “double attack” with the right foot, and the reverse when acting on the left side.

Draw Swords—As before directed.

Slope Swords—As before directed.

Right prove distance—Bring the sword to the “Recover ;” by a second motion extend the arm to the right, and lower the sword in a horizontal direction from the shoulder with the edge to the rear, and the shoulders square to the front. “Slope Swords.”

Front prove distance—Raise the sword as before ; by a second motion extend the arm to the front, and lower the sword in a horizontal direction, edge to the right. “Slope Swords.”

Engage—Carry the sword to the right front, the edge inclining to the right, the point being advanced, and the arm bent, with the back of the hand up, and wrist down ; the sword is then to be carried round in the same position to the right rear and passed smartly to left rear by the front, the point down, the “Fort” covering the centre of the body, elbow raised, hand a little lower than the elbow, looking over the arm and sword ; continue this guard to left front, and resume “Right Front Guard.”

Assault—Raise the hand and sword smartly to the right, the arm bent, the edge slightly turned up, the back of the sword resting on the right shoulder, the body and head turned to the right.

One—Cut horizontally from rear to front at Cavalry, and prepare for Cut “Two,” the sword resting on the left shoulder, edge to the left, with elbow raised.

Two—Cut horizontally from front to rear at Cavalry, and prepare for Cut “Three,” the arm extended to the rear on a line with the shoulder, the back of the hand turned down, sword horizontal, with point direct to the rear.

Three—Cut low from rear to front at Infantry, and prepare for Cut “Four,” the back of the sword resting on the left shoulder point to the rear, shoulders square to the front, and body well bent over.

Four.—Cut low from front to rear at Infantry and prepare for Cut “One” on the left at cavalry by turning the head and body to the left, sword resting on the right shoulder, hand to the right front, arm bent.

One—Cut horizontally from front to rear at Cavalry, and prepare for Cut “Two,” the sword resting on the left shoulder, edge to the rear, hand to the left, elbow raised as high as the shoulder, arm bent.

Two—Cut horizontally from rear to front at Cavalry, and prepare for Cut “Three” at Infantry, arm bent, hand over the right shoulder, sword point downwards, and bend the body over to the left.

Three—Cut low from front to rear, and prepare for Cut “Four,” the arm extended to left rear, back of the hand up, edge of the sword down, point downwards to the left rear.

Four—Cut low from rear to front at Infantry, and “Slope Swords.”

Note.—If the Recruit fails to carry the edge well in making the “Assault,” to attain so essential a requisite for a swordsman, he should be practised in combining Cuts “One” and “Two” at Cavalry, repeating them several times ; also the Cuts “Three” and “Four” at Infantry.

Right Defend—The hand and elbow well raised to cover the head, the edge of the sword up, the point lowered to the right front, the “Fort” covering head and face.

Second—Carry the hand to the right rear, the sword nearly perpendicular, point up, the “Fort” covering head and neck.

Third—Lower the point to the right front, with the edge to the front, and back of the hand to the left, the arm

slightly bent, the hand as low as the hip to defend the leg or horse's shoulder.

Fourth—Turn the edge of the sword to the rear, arm slightly bent, as high as in "Third Guard."

Left Defend—Carry the sword by the front smartly to left rear, the "Fort" covering head and neck, point downwards, looking under the arm.

Second—Carry the sword to the left front, the "Fort" covering face and neck, looking under the arm, body square to the front.

Third—Lower the hand to the left rear the height of the hip, point downwards, and edge inclining to the rear, back of the hand kept up, arm slightly bent to defend the leg.

Fourth—Turn the edge of the sword and arm to the front, hand as high as the hip, point downwards, to the left front, arm slightly bent to defend the leg or horse's shoulder.

Slope Swords.—As before.

Words of Command.

"Engage"		"Right Defend"
"Assault"		"Second"
"One"	} Right.	"Third"
"Two"		"Fourth"
"Three"		
"Four"		
"One"	} Left.	"Left Defend"
"Two"		"Second"
"Three"		"Third"
"Four"		"Fourth"
"Slope Swords."		"Slope Swords."

Guards and Points.

Right Defend—Form first guard on the right.

Point—Deliver point to the right front at Cavalry, with the back of the hand up to the full extent of the arm, and return to first guard.

Second—Form second guard.

Point—Deliver point at Cavalry, to the right rear, with the back of the hand up, and return to second guard.

Third—Form third guard.

Point—Deliver point at Infantry, to the right front, with the back of the hand up, and return to third guard.

Fourth—Form fourth guard.

Point—Deliver point at Infantry, to the right rear, with the back of the hand up, and return to fourth guard.

Left Defend—Form first guard on the left.

Point—Deliver point to left rear at Cavalry, and return to first guard.

Second—Form second guard.

Point—Deliver point to left front at Cavalry, and return to second guard.

Third—Form third guard.

Point—Deliver point to left rear at Infantry, and return to third guard.

Fourth—Form fourth guard.

Point—Deliver point to left front at Infantry, and return to fourth guard.

Slope Swords.

Words of Command.

“Guards” and “Points”

“Right”	“Defend”	“Point”
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“Second”	“Point”
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“Third”	“Point”
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“Fourth”	“Point”
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“Left”	“Defend”	“Point”
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“Second”	“Point”
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“Third”	“Point”
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“Fourth”	“Point”
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“Slope Swords.”

Sword Exercise.

Right Engage—Carry the sword to the right, hilt over the foot, edge inclining to the rear, the point being advanced and the arm bent, with knuckles upwards, and wrist kept down.

Assault—Prepare for Cut “One” on the right at Cavalry.

One—Cut “One,” and form first guard.

Point—Deliver point and prepare for Cut “Two.”

Two—Cut “Two,” and form second guard.

Point—Deliver point and prepare for Cut “Three.”

Three—Cut “Three,” and form third guard.

Point—Deliver point and prepare for Cut “Four.”

Four—Cut “Four,” and form fourth guard.

Point—Deliver point and resume fourth guard.

Left Engage—Carry the sword smartly over to the left, head and body turned in the same direction, the “Fort” a little below the left breast, point in a line with the hip, elbow as high as the shoulder, the hand a little below the elbow.

Assault—Prepare for Cut “One” on the left at Cavalry.

One—Cut “One” and form first guard.

Point—Deliver point and prepare for Cut “Two.”

Two—Cut “Two,” and form second guard.

Point—Deliver point and prepare for Cut “Three.”

Three—Cut “Three,” and form third guard.

Point—Deliver point and prepare for Cut “Four.”

Four—Cut “Four,” and form fourth guard.

Point—Deliver point and resume fourth guard.

Slope Swords—As before.

Words of Command.

“Sword Exercise”

“Right Engage”

“Assault”

“One—Point”

“Two—Point”

“Three—Point”

“Four—Point”

“Left Engage”

“Assault”

“One—Point”

“Two—Point”

“Three—Point”

“Four—Point”

“Slope Swords”—As before.

Pursuing Practice.

Assault—Prepare for Cut “One” on the right front.

One—Make Cuts “One” and “Two” in succession at Cavalry, and prepare for point to right front, the hand in front of the shoulder, elbow well raised, back of the hand up.

Point—Deliver point to full extent of the arm to right front, after a momentary pause turn the back of the hand down, head and body turned to the left front, arm a little bent, point of the sword inclined to the right rear and as high as the shoulder for Cut “One” at Cavalry on the left.

One—Make Cuts “One” and “Two” in succession at Cavalry, and prepare for point to left front as for right front.

Point.—Deliver point to full extent of the arm to left front, withdraw the sword, in a horizontal direction, smartly across the front, edge leading, keeping the arm fully extended on a line with the shoulder, and prepare for Cut “Three” on the right at Infantry.

Three.—Make Cuts “Three” and “Four” on the right in succession at Infantry, and prepare to point to the right front, elbow well raised, and hand a little below the shoulder.

Point—Deliver the point to the full extent of the arm, and prepare for Cut “Three” on the left.

Three—Make Cuts “Three” and “Four” in succession at Infantry, and prepare to point to the left front as on the right front.

Point—Deliver point to full extent of the arm, and remain steady.

Slope Swords.—As before.

Words of Command.

“Pursuing Practice”

“Assault”

“One”—“Point” - - - Right.

“One”—“Point” - - - Left.

“Three”—“Point” - - - Right.

“Three”—“Point” - - - Left.

The men being complete in the Sword Exercise by word of command, will now go regularly through the exercise in the same manner as it will be shown at reviews, inspec-

tions, &c., taking the time of each motion (according as Right or Left is attached to the words of command).

Words of Command.

"Right Prove Distance."

"Slope Swords."

"Front Prove Distance."

"Slope Swords."

"Sword Exercise."

"Pursuing Practice."

SECTION III.

ATTACK AND DEFENCE.

The following practices, with three different modes of Attack and Defence, in four directions, are laid down for independent practice.

Attacking Files.

Defending Files.

Right Front.

Right Front.

First Practice.

Right Engage.

March—Deliver point and form Fourth Guard; come to Engaging Guard, moving on a horse's length, coming to the Right About, and prepare to Attack on the Left Rear.

Defend by Second Guard and deliver Point; come to the Engaging Guard, and changesmartly to Left Rear; prepare to defend.

Second Practice—Cut One and Second Guard, &c., &c.

First Guard, Cut Two, &c.

Third Practice—Cut Two, First Guard, &c.

Second Guard, Cut One, &c.

Left Rear.

Left Rear.

First Practice—Deliver Point and form Fourth Guard, moving two horses' length to the Front, and Right About.

Form First Guard, and Deliver Point.

*Attacking Files.**Left Rear.*

Second Practice—Cut One, First Guard.

Third Practice—Cut Two, Second Guard.

Change for Left Front Attack, each File taking a side step to his own Right.

Left Front.

Left Engage.

First Practice—Deliver Point, First Guard; come to Left Engage, moving on a horse's length, coming to the Left About, and prepare to attack on Right Rear.

Second Practice—Cut One, First Guard, &c., &c.

Third Practice—Cut Two, Second Guard, &c.

Right Rear.

First Practice—Deliver Point, Fourth Guard, moving on two horses' length to the Front, and Left About.

Second Practice—Cut One, Second Guard.

Third Practice—Cut Two, First Guard.

*Defending Files.**Left Rear.*

First Guard, Cut One.

Second Guard, Cut Two.

Left Front.

First Guard, and Deliver Point; change smartly to Right Rear, and prepare to defend.

First Guard, Cut One, &c.

Second Guard, Cut Two, &c.

Right Rear.

Second Guard, Deliver Point.

First Guard, Cut Two.

Second Guard, Cut One.

Note.—The same grasp of the sword to be retained throughout the Exercise, to ensure the true Edge leading. All the points are delivered from a defensive position without the fingers relaxing their grasp.

Immediately the Recruit has acquired a knowledge of the exercise, the Squad should be broken into Files, for the purpose of independent play in the practices given with Sticks and Masks.

The Mounted Practice is to be in the same formation as when performing the Practices (already directed) of Attack

and Defence; the Squad being extended, and in two Ranks, they should then go through them at a Canter; and afterwards both Ranks, as in the lesson of the "Double Ride," performing the movements as they pass each other. The opposing Files should also circle "Right" within measure, and at a Walk, before they are allowed to play loose; strict attention being paid that all movements are made from the hips upwards, so as to keep the legs and bridle-arm in their proper position. The loose play, or Independent Practice, having been first tried at a Walk, may be then carried on at a Canter; and the Files should practise on their Left, as well as their Right.

The Cuts and Thrusts must not be given too strongly, as in friendly practice any injury to the parties ought to be avoided.

Each Cut or Thrust to be acknowledged by the party receiving it, by sloping his sword, the Opponent at the same time recovering to an Engaging Guard.

All Cuts or Thrusts being made from a defensive position, great attention should be paid in immediately returning to such, as soon as the Cut or Thrust is delivered.

The practice must never be without Masks; and as the Stick is the substitute for the Sword, the Cut can only be considered fair and effective when given with that part which corresponds with the edge: nor should any movement of attack or defence be attempted with the Stick which could not be performed in a combat with Swords.

It would be useless to endeavour to state which are the best movements, as they must depend entirely upon the judgment and abilities of the parties engaged; but as the loose play should not be allowed until a sufficient competency is attained by the parties, and they have been thoroughly instructed in the movements of Attack and Defence, they can never find themselves at a loss, if the science is followed up by sufficient practice and attention to the instructions they have received.

1st Practice

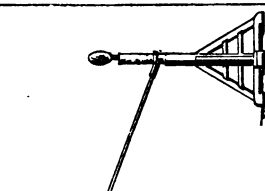
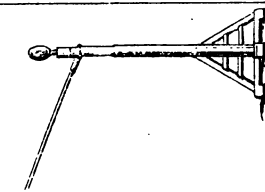
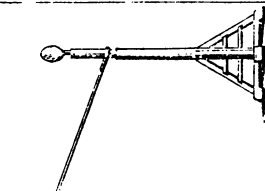
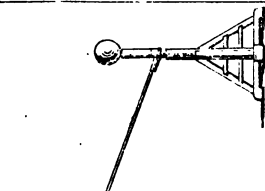
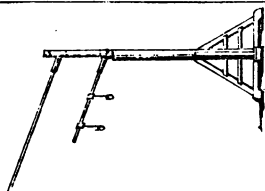
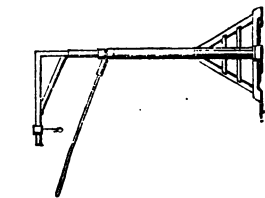
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4th

5th

6th



6th

5th

4th

3^d

2^d

1st Practice.

SECTION IV.

POST PRACTICE.

The Squad should now be instructed to Thrust and Cut at the rings and heads attached to the posts, which are supplied to the Cavalry Riding Houses for the practice with Arms. This practice will give a confidence and precision in the application of the Edge and Point, as well as the requisite celerity and judgment of time and measure, as each post having an arm attached to it to represent a sword, lance, or bayonet, the swordsman is consequently forced to turn it out of the line by some mode of defence, before he can make his own offensive movement, both of which must be executed with great quickness; he should therefore be practised, first at a walk, and so on progressively to a canter, &c. It is also requisite that he should be practised to commence with the attack by having the arms of the posts turned outwards, and delivering the Points and the Cuts One, Two, and Three; to do which, in quick succession, the posts are all to be placed on one side of the school. When the school is otherwise occupied this practice may be carried on in the barrack square, or exercising ground, occasionally varying the order of the posts, so that a Cut or Point may be alternately given. By placing the posts according to their numbers Four, One, Five, Two, Six, Three, or moving Four, Five, and Six, to the right, the Files passing between the two lines of posts may give the Cuts on the right and Points to the left; it being clearly understood that the movement of attack against each is invariably the same as directed in the Post Practice.

Right Practice.

- First Post, Second Guard, Point.
- Second Ditto, Strike the arm forward, Point.
- Third Ditto, Fourth Guard, Low Point.
- Fourth Ditto, Second Guard, Cut One.
- Fifth Ditto, Strike the arm forward, Cut Two.
- Sixth Ditto, Fourth Guard, Cut Three.

The following Left Practice is added, having the posts on the Left, the Files going about, and consequently commencing at the sixth post, which, with the rest, must have the arm turned.

Left Practice.

- Sixth Post, Third Guard, Cut Four.
- Fifth Ditto, Strike the arm forward, Cut One.
- Fourth Ditto, First Guard, Cut Two.
- Third Ditto, Third Guard, Low Point.
- Second Ditto, Strike the arm forward, Point.
- First Ditto, First Guard, Point.

Note.—In the above practices it will be observed that the Posts No. 2 and No. 5 are those at which the defence is made to the front, whether they are to the Right or Left, and with the remaining four, viz., Nos. 1, 3, 4, 6, it is always made to the Rear.

SECTION V.

GENERAL OBSERVATIONS AND DIRECTIONS.

THE exercise of the Sword consists of Four Cuts or directions of the edge ; the same number of Guards or defensive positions ; and the Point (or Thrust) given with the nails downwards ; therefore, whatever may be the attack or defence, it can only be formed by having recourse to some of the above movements, or a combination of them, as they are all applicable either to Cavalry or Infantry, according to the situation of the parties engaged ; and in all attacks, whether Cuts or Thrusts, the motion ought to increase in speed, the impetus being given at the last.

The greatest attention should at all times be paid to maintain the proper position and balance of the body, from which, by too great an exertion in delivering a Cut or Thrust, the horseman may be suddenly thrown, and thereby lose the advantage of his science in the use of his Sword, by the natural efforts which he must make to regain his seat ; *nor should he fail to have every confidence and dependence*

upon his Guard, without trusting to his avoiding the attack of an opponent by turning or drawing back the body to escape from it.

In delivering a forward Thrust, very little force is necessary when the horse is in quick motion, as the extension of the arm, with a good direction of the point, will be fully sufficient; nor should a Cut, under such circumstances, be given too strong, as in both cases the impetus of the horse will give the effective force; or in the latter, the drawing of the edge can very frequently be applied with advantage, particularly where the Point, by being given too soon, may not have taken effect, when by a quick turn of the wrist the edge is drawn along the face of your opponent, or any part which more immediately comes in contact with it. The forcing also of the edge can be resorted to when very near and closely pressed upon by an adversary, by suddenly extending the arm, and directing the edge across the face, or where an opening is given; in this case, however, the hand should not be carried more than absolutely requisite either to the Right or Left, or make too wide a movement, so as to offer an equal chance to your opponent.

When sufficient space is allowed for choosing the point of attack, you should endeavour to take advantage of it; if not, at all events to avoid its being made on your Left rear, when a change of position can alone bring you upon an equality with your opponent: it may be done either by making a sudden halt, so as to allow him to pass, and then pressing upon his Left rear; or by turning quickly to the Left about, and thereby having your Right also opposed to his. Should you be prevented doing this, and he still keeps on your Left, you must bear up, as close as possible to him, otherwise your opposition will be ineffectual; for in his situation, by keeping at the proper distance from you, his Cut will reach when yours will not, and consequently you will be reduced to the defence alone.

In meeting your opponent on the Left front, turn sharply to the left on your own ground, which brings you immediately with your sword-arm free, and at liberty to act upon his left; and in meeting him upon the Right front, press your horse quickly on, and by a sharp turn to the right, gain his Left rear; or if pursued, endeavour to keep your Adversary on the Right rear; when the distance will be

always in your favour, and you may, by the Rear Cut and Point, keep checking his advance with impunity. When attacked by more than one, you will naturally endeavour to keep them both either to the Right or Left ; but where they have been enabled to place themselves on both sides, press close upon the left opponent, and endeavour to keep the right one at a distance.

Although a regular mode is laid down for drawing the sword, yet occasional practice should be given, both on Foot and on Horseback, to come to the "Guard" immediately, and at any required point, without going through the Parade Motions, &c., which will prepare the Swordsman for any sudden attack of an enemy.

The attack or defence against the Lance must depend greatly upon the Rider ; for admitting that the Lancer is equally well-mounted, and skilful in the management of his horse, he will endeavour to keep at such distance as to be out of your reach, whilst he can easily make good his thrust, from the length of his lance ; and he will very frequently succeed in directing his point at your horse, which, becoming unruly, will leave you exposed to the attack of your opponent. You must, therefore, invariably endeavour to gain his Right rear, where he is less able to attack or defend ; whereas if (as against the Sabre) the attack is made upon his Left rear, he has the advantage of resting his lance upon his bridle arm, and can lengthen or shorten his thrust with facility and quickness. If engaged on his Left, the object must be to keep just out of distance of the lance ; watching the opportunity to close, either by having previously formed a defence, or by bearing the lance out of the line. When meeting on his, or your own, Right front, you may have recourse to either of the "Three Practices" (as against the Sword), closing instantly after any of them with confidence and resolution ; he will not then attempt to aim at the horse, as he becomes exposed to any Cut or Thrust, for it is only when engaged directly Right or Left in circling that he gives his short stabs at the horse, without exposing himself, or losing the power of regaining his lance. Your horse should have been well accustomed to the waving of the lance, without which no skill of yours, either in the *science* of the sword or that of riding, can be of much *service to you*.

When opposed to Infantry, endeavour to meet an opponent on your Right ; as every Guard parries the point of a sword, so will each defend against the point of a bayonet, taking care that the "Fort" of your own weapon meets the "Feeble" of your opponent's ; consequently it is the bayonet which must be struck ; and supposing the attack to be directed as usual, with the opponent's left shoulder advanced, and on your Right front, the most effectual defence will be as in the Practice against the Posts Nos. 3 and 6, which are similar to the same movements against the sword in the Three Practices of Attack and Defence.

In advancing against Infantry, the Third Guard on the Right or Fourth Guard on the Left leads well to the attack, and is ready for defence, or to take advantage of any opening ; and should your opponent appear irresolute, or draw back his weapon, then, while passing, the Cut Three, or Point, may be given to advantage ; the Cuts Three and Four on the Right or Left, form a defence, as well as an attack, upon Infantry ; and the smarter they are given, the more effectually they will protect you, and cripple your opponent's position. The Point should be used chiefly in pursuit, and will be given with most advantage on your Right, as from thence you can reach further, and are better prepared for defence.

In the use of the sword at speed, there are few things of more importance than that the Horseman should aid the impetus of the Cut, and secure his own seat by supporting the sway of the body with the opposite leg to that side on which he intends to Cut or Point ; for instance, if he desires to cut Three or Four on the near side of the horse, he should support the body by a strong pressure of the inside of the right thigh and leg against the saddle ; *vice versâ* in Cuts made to the right, he should support the body with the left leg ; the lower down the grip can be taken the better, taking care not to touch the horse with the spur at the time of making them. This rule is of greater consequence than it appears to be at first sight ; for unless it is understood and practised, a person may be a very good swordsman, and yet not capable of using his weapon either with effect against an opponent or with safety to himself. It is particularly applicable and necessary in pursuit over rough and varied

ground ; and the same observation applies to the use of the Lance.

The instructors should endeavour, as much as possible, in their progressive instructions to the Recruit, to impress upon his mind such occasional observations as become most applicable. Opportunities of thus explaining may often be taking during pauses of rest, as no Squad should be kept too long either in the positions or movements ; and where any Recruits are more deficient than the rest, the whole should be made to cease for the moment, and only those who have gone wrong be required to go on and correct their error.

SECTION VI.

OFFICERS' SALUTE.

OFFICERS fall in Standing at Ease, as directed.

Attention—Carry Swords.

Take Order—March—Serrefile Officers come to the front, and place themselves in a line with the Troop leaders in their respective positions.

Present Arms—"Recover Swords," at the second motion of the Carbine, and at the third motion lower the sword (to the full extent of the arm) to the right, with the edge to the left, and point in the direction of the right foot, the arms close to the body.

Advance Arms—"Recover Swords," at the first motion of the Carbine, and at the second motion "Carry Swords."

Take Close Order—March—Serrefiles take post in Rear.

The "Carry Swords," when on Foot, is to be the same as when performing the Sword exercise.

On the March, or when manœuvring, the sword is to be at the slope.

In all Parade movements and on complimentary occasions, mounted, the sword is to be carried with the hilt resting upon the right thigh, the blade perpendicular, the grasp of the lower fingers slightly relaxed.

The Salute on the March is to commence when at ten paces from the Reviewing Officer, taking the time from the Officer on the Right. The sword is then raised, by extending the arm to the right, and by a circular motion brought to the Recover; and continuing the motion to the right shoulder, from whence the sword is lowered, as before directed. The time for completing the Salute on Foot is four paces, commencing with the left foot, and may be divided (for Drill practice) as follows:—First Pace, the sword raised to the right; Second Pace, to the Recover; Third Pace, to the Right shoulder; Fourth Pace, the sword lowered to the right. The same time is given for the Salute when mounted, but the sword should then be kept in a line with the knee. On the March, the above four motions are slowly combined into one graceful movement.

The head should be slightly turned towards the Reviewing Officer whilst passing him, and having done so six paces, "Recover Swords," at one pace, and "Carry" in the following.

Note.—The Instructions for Foot Parade of Regiment in Cavalry Regulations must be altered to correspond with the above.

SECTION VII.

FORMATION FOR SWORD EXERCISE ON FOOT.

THE Regiment being formed as for Mounted Parade, is told off by squadrons.

From the Right of Fours to the Front File.

Quick March—The whole move forward in succession, 1, 2, 3, 4, keeping their interval and dressing by the Centre. The Troop Leaders of the Squadron of Direction raise their Swords and give the base for the alignment. The Rights of Fours of the Front Rank preserve their distance from their Squadron and Troop Leaders; the remainder mark time

till each in succession gets his distance of four paces from the man preceding him, particular attention being paid to true covering ; Serrefiles and Coverers follow the Lefts of Fours.

*Halt.**

Prepare for Sword Exercise.

Eyes Right.

Draw Swords.

Slope Swords.

Right Prove Distance.

Slope Swords.

Front Prove Distance.

Slope Swords.

Sword Exercise.

Pursuing Practice.

Front form Ranks.—The Squadron and Troop Leaders turn right about, and move up to the Rights of Fours. The Troops Leaders of the Squadron of Direction raise their Swords and give the base.

Quick March—The whole form as at Close Order.

Eyes Front—Squadron and Troop leaders front, and resume their posts.

Note—Proving distance to the front is only necessary when on foot.

* If under Arms, the Carbines will be brought to the " Order " and " Ground," and the swords unhooked.

SECTION VIII.

FORMATION FOR SWORD EXERCISE
MOUNTED.

From the Right of Fours to the Front File.

March—The whole move forward in succession by the Squadron of Direction taking distance of a horse's length from the head of one horse to the croupe of another ; the Right-hand Man of the Left Troop of each Squadron preserving his former position with respect to the Squadron Leader. The Standards and their Coverers drop back into the Serrefile rank, and all Serrefiles remain in the rear covering the Lefts of Fours.

Halt—The dressing of the Rights of Fours of the Front Rank, and the covering of the remainder, are corrected as quickly as possible.

Right Prove Distance.

Slope Swords.

Sword Exercise.

Pursuing Practice.

Front form Ranks—Upon the caution, the Standards and their Coverers instantly move to their places.

March—The whole form as at Close Order.

When a regiment, or a portion of it, performs the Sword Exercise Mounted, having advanced from the Right of Fours, it should gallop, and at a signal from the trumpet perform the Sword Exercise ; then by a second signal, perform the Pursuing Practice. Where the ground will not admit of both these Exercises being performed to the front, the Pursuing Practice may be done to either flank by Right or Left turn, or, to the rear by "Right about Turn," after which the Files being turned to the front, the Line will be formed in the usual manner.

CARBINE EXERCISE.



CARBINE EXERCISE.

CARBINE EXERCISE ON FOOT.

As soon as the Recruit shall have been sufficiently instructed in the Elementary Exercise of Marching, Facing, &c., he is to be taught the Exercise of the Carbine on Foot, and carefully instructed in all the details connected with Loading, Capping, and Firing with Ball, the whole of which are as necessary for the Cavalry as for the Infantry Soldier.

The Exercise of the Carbine on Horseback is to be commenced when the Recruit shall have made a sufficient progress in Horsemanship, as directed in the Instructions on Military Equitation.

Manual Exercise.

The Troop or Squad falls in for Drill, standing at Ease, with Carbine at the "Support;" that is, with the right hand brought forward and raised, holding the Carbine with the three last fingers under the cock, the thumb above, and the fore fingers under the guard, and about three inches below the bottom of the jacket; the arms to be kept near the body, the guard of the Carbine turned upwards, the swivel bar touching the hip, and the muzzle to the right rear; the left hand laid over the right, the left knee bent, and the right foot drawn back six inches.

"*Attention.*" Spring smartly up to the position of the "Advance," that is, with the Carbine perfectly upright against the side, the arm fully extended, the elbow close to the guard of the Carbine to the front; the thumb above the guard; the fore finger under it, and the other fingers under the cock.

"Present Arms." The thumb of the right hand is placed under the cock ; the Carbine is raised about two inches, and the muzzle is brought forward from the arm about four inches ; at the same time the left hand is brought briskly across the body and seizes the Carbine a little above the gripe.

"Two." The right hand raises the Carbine, grasping the small of the stock ; the left hand, quitting its position above the gripe, is placed above the lock, fingers round the stock, and the side of the hand resting on the guard ; the point of the thumb as high as, and opposite to, the left eye ; both elbows close.

"Three." The Carbine is brought down to the extent of the right arm, the butt projecting, letting the barrel fall on the bend of the left ; the lock turned a little outwards, and the cock resting against the knuckle joint of the first finger ; this and the second finger only resting on the small of the stock, the others shut in the hand ; the points of the first and middle finger of the left hand touching the swell of the stock in front of the lock, and the first finger close to the middle one, the others shut in the hand ; the point of the thumb touching the seam in the centre of the flap of the trowsers ; the right foot at the same instant drawn back about six inches behind the left heel ; both knees straight.

"Advance Arms." "Advance" the Carbine, steadying it with the fingers of the left hand, and bringing up the right foot.

"Two." Drop the left hand to its place by the side.

"Port Arms." At one motion throw the Carbine to a diagonal position across and close to the body, the lock to be outwards, and at the height of the breast, the right hand grasping the small of the butt, just below the right breast ; the left holding the Carbine at the gripe, the thumbs of both hands pointing towards the muzzle.

N.B. In this position the Carbine may be half-cocked at one motion, by the word "*Half-Cock Arms*," for the purpose of inspecting the nipple, cock, &c., by placing the thumb of the right hand on the cock, and with the elbow well raised to the front, drawing back the cock

to the catch of the half-cock. If the springs are to be eased, at the command "Ease Springs," press the fore finger tightly on the trigger, draw the cock back with the thumb to the full cock, with an equal pressure on the trigger and cock; then lower it very carefully and gently on the nipple.

"Advance Arms." Bring the Carbine down from the "Port" to the "Advance;" the left hand steadying it.

"Two." Bring the left hand to its place by the side.

"Support Arms." The right hand is brought forward and raised, retaining its hold of the Carbine as before directed.

"Stand at Ease." The left hand is laid over the right, the left knee bent, and the right foot drawn back six inches.

"Attention." Bring the Carbine to the "Advance."

"Order Arms." The left hand is brought smartly across the body and seizes the Carbine.

"Two." The right hand quits its hold from the cock, and is brought above the left hand, and seizes the Carbine round the muzzle.

"Three." With the right hand, lower the Carbine gently to the ground, close to the outside of the right foot, the left hand dropping to the side.

"Stand at Ease." The left knee bent, and the right foot drawn back six inches, the muzzle of the Carbine to incline a little forward.

"Attention."

"Advance Arms." Raise the Carbine from the ground with the right hand, until the muzzle touches the hollow of the shoulder, the left hand grasps the muzzle.

"Two." Shift the right hand down, and place the finger and thumb round the trigger guard, the three last fingers under the cock.

"Three." The left hand is brought down to the side.

"Ground Arms." Lay the Carbine down gently on the ground, with the lock uppermost, and the trigger guard to the right.

"Two." Spring smartly up to "Attention."

"*Take up Arms.*" Sink the body as in "*Grounding Arms*;" take up the Carbine and come to the "*Order.*"

"*Advance Arms.*"—As before.

Review Exercise.

"*Present Arms.*"

"*Advance Arms.*"

"*Port Arms.*"

"*Advance Arms.*"

"*Support Arms.*"

"*Advance Arms.*"

"*Order Arms.*"

"*Stand at Ease.*"

"*Attention.*"

"*Advance Arms.*"

Note.—Before the command "*Platoon Exercise,*" the men are to be directed to take out their muzzle stoppers, which are to be placed in the cap pocket.

Platoon Exercise.

On this caution, the rear rank will take two paces to the front.

"*Spring Arms.*" The Carbine is raised from the "*Advance,*" by the right hand, as high as the hip, with the lock turned downwards, and is seized with the left hand at the gripe, the right seizing the swivel, and securing it through the ring; then grasp the small of the butt with the right hand.

"*Advance Arms.*" Bring the Carbine to the "*Advance,*" and quit it with the left hand.

"*Platoon Exercise by Motions.*" To serve as a caution.

"*Prepare to Load.*" Seize the Carbine with the left hand at the gripe, left arm close in to the body; at the same time make a right half face by raising the toes and turning upon the heels, the left toes to point to the front, right toes to the right, eyes to the front.

“*Two.*” Front rank carry the left foot ten inches to the left front ; rear rank carry the left foot six inches to the front (both ranks moving the body with it) ; at the same time square the shoulders to the front from the hip, and bring the Carbine down in the left hand, the butt touching the inside of the left leg, barrel to the front, perpendicular, the left arm close to the side, carrying the right hand at once to the pouch and take up a cartridge, holding it with the forefinger and thumb close to the top, with the bullet in the palm of the hand.

“*Load.*” Bring the cartridge to the mouth, bite the end off with care, so as not to lose any of the powder, any motion which may be necessary to be made from the wrist only.

“*Two.*” Bring the cartridge to the muzzle of the carbine and pour the powder into the barrel, inclining the palm of the hand to the front, and bringing the elbow as nearly as possible square with the wrist in doing so, the thumb of the left hand to point upwards.

“*Three.*” Reverse the cartridge by dropping the hand over the muzzle, bringing the fingers round the barrel, knuckles to the front, and put the bullet into the barrel nearly as far as the top, holding the paper above the point of the bullet between the forefinger and thumb, still keeping the right elbow as square as possible with the wrist.

“*Four.*” By a turn of the wrist from left to right pressing the little finger against the barrel, and dropping the right elbow into the side tear off the paper which is held between the finger and thumb ; when this motion is completed, the little finger to rest against the side of the barrel, the knuckles inclined towards the ground.

“*Five.*” Seize the head of the ramrod between the forefinger and thumb of the right hand.

“*Rod.*” Draw the ramrod out with a straight arm and place it on the top of the bullet ; the ramrod to be perpendicular and still held by the button between the thumb and fore finger of the right hand, the remaining fingers closed in the palm of the hand, the knuckles fall

to the front and without altering the squareness of the shoulders.

"Home." Force the bullet steadily straight down to the bottom.

"Two." By two steady and firm pressures (raising the ramrod about an inch on each occasion) ascertain that the bullet is resting on the powder; all strokes which may indent the point of the bullet to be avoided.

"Return." Draw the ramrod smartly out of the barrel and return it; the forefinger and thumb of the right hand still holding the button.

N.B. In performing the motions of "Rod" and "Return," care must be taken that the ramrod rubs as little as possible against the sides of the barrel or muzzle, that the shoulders are preserved square to the front, and that the body is kept perfectly steady.

"Cap." Let the shoulders resume the half-face, and bring the Carbine to a horizontal position at the right side with the left hand, which is to grasp it firmly, but not nearer to the nipple than the projection in front of the lockplate, against which the little finger may rest, the thumb between stock and barrel, the left arm to be close in to the body as a support; at the same time meet the small of the butt with the right hand, elbow to the rear, and hold it lightly with the fingers behind the trigger guard, and half-cock the Carbine, the thumb to remain on the cock; the small of the butt to be pressed against the hip.

"Two." Advance the fingers to the nipple, and with the forefinger throw off the old cap.

"Three." Carry the right hand to the cap pocket, and take up a cap between the forefinger and thumb, the remaining fingers to be closed in the hand, elbow to the rear.

"Four." Place the cap upon the nipple, looking down while doing so; afterwards raise the eyes to the front.

"Five." Press the cap home with the flat part of the thumb, with the fingers closed in the hand against the *lockplate*.

"Six." Bring the hand to the small of the butt and hold it lightly with the fingers behind the trigger guard, thumb pointing to the muzzle.

"At yards, Ready." Carry the right hand to the sight, and raise the flap for the distance named, after which bring the hand back to the small of the butt, and full cock the Carbine, and hold it lightly with the fingers behind the trigger guard, thumb pointing to the muzzle, and fix the eye steadfastly on some object in front.

"Present." Bring the Carbine to the shoulder at once, carrying it to the front so as to clear the body in doing so, but without moving the left hand from the place at which it grasps the stock at the capping position, or stooping the body or raising the heels off the ground (the Carbine to rest solidly in the palm of the left hand), at the same time raise the right elbow nearly square with the right shoulder, but inclined to the front of it, so as to form a bed for the butt, the centre of which press firmly to the shoulder with the left hand, and bring the left elbow well under the Carbine to form a support, the right hand to hold the small of the butt lightly, the thumb pointing to the muzzle, which is to be a few inches below the object the right eye is fixed upon, the forefinger along the outside of the trigger guard, and the left eye closed.

"Two." Place the forefinger round the trigger like a hook (that part of it between the first and second joint to rest flat on the trigger) and restrain the breathing.

"Three." Raise the muzzle steadily until the top of the foresight is brought in line with the object through the bottom of the notch of the back sight.

"Four." Press the trigger without the least motion of the hand, eye, or arm, until the cock falls upon the nipple, keeping the eye still fixed upon the object.

"Five." Bring the Carbine down to the capping position, shut down the flap, and immediately seize the Carbine with the right hand close in front of the left and after a pause (taking time from the right) turn the

barrel downwards and bring the Carbine to a perpendicular position in the right hand, and come to the position of "Prepare to Load," 2nd motion.

N.B. Particular attention is to be paid to the following points in the "Present." The body is to be firm and upright, the butt to be pressed firmly into the hollow of the shoulder, so as to avoid the kick which will otherwise take place from the recoil on the explosion of the powder; the Carbine is to rest solidly in the left hand, and to be firmly grasped, but without rigidity of muscle; the sight to be upright; and in aiming the muzzle to be steadily raised until the top of the foresight is aligned upon the object on which the right eye is fixed, through the bottom of the backsight; the left eye to be closed and the breathing restrained. In delivering the fire the trigger is to be moved by pressure alone, without any motion of the hand, eye, or elbow; the right eye to continue fixed upon the object after snapping, to ascertain if the aim has been deranged by the movement of the trigger or body.

"*Advance Arms.*" Bring the Carbine to the "Advance" and quit it with the left hand.

"*Trail Arms.*" Seize the Carbine a little above the gripe with the left hand to steady it, then with the right seize it at the gripe, drop it to the full extent of the arm, and quit it with the left hand, the barrel level, and the muzzle straight to the front.

"*Advance Arms.*" Come to the "Advance."

"*Unspring Arms.*" Raise the Carbine with the right hand as high as the hip, and seize it with the left at the "Gripe," (that is, with the full hand round the barrel and stock,) the lock downwards; the muzzle raised and in front of the chin; then "unspring" by disengaging the swivel from the Carbine, drop the swivel behind, and seize the small of the butt with the right hand.

"*Advance Arms.*" Bring the Carbine to the "Advance" and quit it with the left hand.

"*Support Arms.*"

"*Stand at Ease.*"

Care must be taken that the distinct motions are not confused by improper haste.

From the "*Capping Position*," the firing may be stopped by the words "*Advance Arms*."

REVIEW EXERCISE.

Spring Arms.	At yards, Ready.
Advance Arms.	Present.
Prepare to Load.	Advance Arms.
Load.	Trail Arms.
Rod.	Advance Arms.
Home.	Unspring Arms.
Return.	Advance Arms.
Cap.	

USE OF THE CARBINE ON HORSEBACK.

1. When the Recruit has attained a degree of proficiency on foot, the Exercise of the Carbine on Horseback should often form a part of each riding-lesson.

2. The following instructions are given in detail as they are to be taught to Recruits in small Squads; but, as soon as they are perfect, they may proceed with the execution of the several commands without loss of time; and afterwards the Recruit may fire blank cartridge.

3. In the first lessons of the Recruit with the Carbine on horseback great care must be taken, that, in presenting to the front or left, he does not strike or touch the horse's head with the Carbine.

4. In Loading, he must be taught to shake the powder out of the paper into the barrel before he puts in the wadding; and when loading with Ball, to double the Paper round it, so that it may require a small degree of force to drive it home; otherwise, when he "Slings" or "Straps" his Carbine, after it is loaded, the ball is apt to fall out.

5. The Recruit must be made to understand that the cap when placed on the nipple should be well pressed down with the thumb, so that there may be no danger of its falling off.

6. In all the motions connected with firing, great care must be taken to avoid altering the accustomed feeling of the bridle in the horse's mouth, or the usual seat and balance of the man, and position of his legs, as tending to alarm the animal; for a horse once rendered timid by an accident in firing from his back, will make the practice of it both difficult and dangerous.

7. When the Recruit is familiar with the firings at the halt, he is to practise them while his horse is in

motion ; afterwards he must be taught to fire with ball at a suitable object, first at the halt, and afterwards when in motion. This is the most important part of the instruction ; and it must be recollected that in all Barracks and Quarters near the seaside, there is every facility for firing at a target erected on the shore without danger or inconvenience.

8. Although it is desirable that the Horseman should be habituated to the use of his Carbine at speed, few occasions can arise for his using it against an enemy at any pace beyond a walk ; and notwithstanding he is enjoined while skirmishing, to keep his horse in motion, in order to avoid becoming a fixed object for the enemy's marksmen, he cannot reasonably calculate on his shot being effective, unless he halts for the moment of firing.

9. The fire of the Cavalry soldier is never to be had recourse to but in skirmishing ; and as the Carbine is only to be used in firing to the front and to the left, the former is generally to be preferred, because in that position the rider has both hands to steady the Carbine, his horse presents the least mark, and he himself is most covered from the shot of the enemy.

CARBINE EXERCISE ON HORSEBACK.

The Squad is to be formed in a rank entire at double open file distance.

"Spring Arms." Take off the right-hand glove, place it in the waist-belt; swivel and unstrap the Carbine; and seize it with the right hand at the gripe.

"Advance Arms." Draw the Carbine from the bucket, and continue to grasp it with the full hand, bring it to the "Advance," resting the hand upon the thigh; the barrel diagonally across the body, the muzzle a little elevated to the front.

In this position the Carbine is carried by small detachments and advanced parties when near the enemy, and by videttes on service, being that from which the soldier most readily prepares to fire, and which occasions the least fatigue.

"Prepare to Load." Raise the Carbine in front of the face, pass the butt over to the left under the bridle arm, and lower it till it rests on the swivel, taking hold of it with the left hand to steady it in loading, the right hand holding and steadying the muzzle. In this position the bridle hand must not be raised, or disturbed.

"Two." The right hand takes out the muzzle stopper and places it in the cap pocket, after which carry the right hand to the pouch and take up a cartridge, holding it with the forefinger and thumb close to the top, with the bullet in the palm of the hand.

"Load." Bring the cartridge to the mouth, bite the end off with care, so as not to lose any of the powder, any motion which may be necessary, to be made from the wrist only.

"Two." Bring the cartridge to the muzzle of the Carbine and pour the powder into the barrel, inclining the palm of the hand to the front, and bringing the elbow as nearly as possible square with the wrist in doing so.

"Three." Reverse the cartridge by dropping the hand over the muzzle, bringing the fingers round the barrel, knuckles to the front, and put the bullet into the barrel nearly as far as the top, holding the paper above the point of the bullet between the forefinger and thumb, still keeping the right elbow as square as possible with the wrist.

"Four." By a turn of the wrist from left to right, pressing the little finger against the barrel, and dropping the right elbow in to the side, tear off the paper, which is held between the finger and thumb; when this motion is completed the little finger to rest against the side of the barrel, the knuckles inclining towards the ground.

"Five." Seize the button of the ramrod between the forefinger and thumb of the right hand.

"Rod." Draw the ramrod out and place it on the top of the bullet, the ramrod to be still held by the button between the thumb and forefinger, the remaining fingers to be closed in the palm of the hand.

"Home." Force the bullet steadily straight down to the bottom.

"Two." By two steady and firm pressures (raising the ramrod about an inch on each occasion) ascertain that the bullet is resting on the powder; all strokes which may indent the point of the bullet to be avoided.

"Return." Draw the ramrod smartly out of the barrel, and return it, the forefinger and thumb still holding the button.

N.B. In performing the motions of "Rod" and "Return" care must be taken that the ramrod rubs as little as possible against the sides of the barrel or muzzle.

"Cap." Change the right hand to the gripe (below the left) and raise the Carbine, keeping the muzzle well

to the front, letting go the left, and continuing to raise the piece with the right till you can pass the butt over to the off side ; lay the Carbine in the left hand, which is to grasp it firmly, but not nearer the nipple than the projection in front of the lock-plate ; the right hand half cocks the piece, the thumb to remain on the cock, the fingers round the small of the butt, which is to be pressed against the hip.

"*Two.*" Advance the fingers to the nipple, and with the forefinger throw off the old cap.

"*Three.*" Carry the right hand to the cap pocket, and take up a cap between the forefinger and thumb, the remaining fingers to be closed in the hand, elbow to the rear.

"*Four.*" Place the cap upon the nipple, looking down while doing so ; afterwards raise the eyes to the front.

"*Five.*" Press the cap home with the flat part of the thumb, with the fingers closed in the hand against the lock-plate.

"*Six.*" Bring the right hand to the small of the butt, and hold it lightly with the fingers behind the trigger-guard, thumb pointing to the muzzle.

"*At yards, Ready.*" Carry the right hand to the sight, and raise the flap for the distance named ; after which bring the hand back to the small of the butt, and full-cock the Carbine, and hold it lightly with the fingers behind the trigger-guard, and fix the eye steadfastly on some object in front.

"*Front Present.*" Raise the Carbine to the "*Present*" with both hands, and place the butt firmly against the hollow of the right shoulder ; lean the head in order to take a steady aim. In raising the Carbine to the "*Present*" the greatest care must be taken not to disturb the feeling of the bridle in the horse's mouth ; and, with this view, the motions must be made as smoothly and as quietly as possible ; and, if necessary, the reins may be lengthened.

"*Two.*" Place the forefinger round the trigger like a hook, and restrain the breathing.

"Three." Raise the muzzle steadily, until the top of the foresight is brought in a line with the object through the bottom of the notch of the back sight.

"Four." Press the trigger without the least motion of the hand, eye, or arm, until the cock falls upon the nipple, keeping the eye still fixed upon the object.

"Five." Bring the carbine down to the capping position, shut down the flap, and immediately seize the Carbine with the right hand close in front of the left, and after a pause (taking time from the right) raise the Carbine in front of the face and come to the position of "Prepare to Load," 2nd motion.

N.B. Preparatory to firing to the left, the horses must be turned to the right to prevent accidents.

"At yards, Ready." As before.

"Left Present." Raise the Carbine to the "Present" to the left with the right hand; and in order to steady it, rest the barrel on the left arm, near the elbow, which for this purpose is to be raised nearly as high as the shoulder.

"Two." As before.

"Three." As before.

"Four." As before.

"Five." As before.

"Advance Arms." The right hand seizes the Carbine at the gripe, raises it in front of the face, and brings it to the "Advance."

N.B. The recruit should be taught in firing to the front to turn the horse's head the least thing to the right, the muzzle of the Carbine to be clear of the near ear; on no account to fire between the ears or near the eyes, as by so doing young horses are very liable to become unsteady; therefore too much care and attention cannot be paid to the above, as it is most essential to have the horse perfectly quiet to procure accurate firing.

The exercise should next be gone through in quick time, without numbers, as on foot.

N.B. From the "Advance" the Carbine may be carried or slung.

‘Carry Arms.’ Without altering the position and grasp of the right hand, raise the Carbine, and place the butt of it in the hollow of the right thigh, where the hand previously rested ; the muzzle to be carried to the front, so as to be in a line, clear of the horse’s neck, and leaning rather forward, the elbow near the side. In this position the Carbine is carried by the Advanced Guard in marches of parade.

“Sling Arms.” This position is taken from any of the preceding, by gently dropping the Carbine, with the muzzle downwards, behind the thigh, and leaving it slung or suspended by the swivel only.

From being slung, the Carbine may be brought at once to any of the foregoing positions, or may be strapped.

“Strap Arms.” Seize the Carbine at the gripe and lay it in the left hand ; then place the muzzle in the bucket ; strap and unspring the Carbine, and drop the swivel ; put on the right-hand glove, and let both hands resume their usual position.

CARBINE EXERCISE ON FOOT FOR LOADING AND FIRING WESTLEY RICHARDS' BREECH-LOADING CARBINE.

“ Prepare to Load.” Make a right-half face by raising the toes and turning on the heels (the left foot to point to the front, the right foot to the right), at the same time seize the Carbine with the left hand, the little finger to be in line with the elbow, which is to be close to the side, the right arm being slightly bent.

“ Two.” Bring the Carbine to a horizontal position at the right side, grasping it firmly with the left hand, the little finger touching the projection in front of the lock-plate, the thumb between the stock and barrel, the left elbow to be close to the side as a support ; the flat part of the butt to rest in the hollow of the side, in line with the hip, at the same time carry the left foot six inches to the front,* moving the body with it, and take the knob of the breech between the forefinger and thumb, the remaining fingers closed in the hand ; raise the breech and carry the hand to the pouch and take up a cartridge, holding it between the forefinger and thumb, bullet point foremost.

“ Load.” Carry the cartridge to the fingers of the left hand, then seize the tape at the end of the outer case of cartridge, between the forefinger and thumb of the right hand, and tear it straight down to the opposite end, remove the cartridge, and place the bullet in the chamber,

* This refers to the rear rank, the front rank advance their left feet six inches to the front, and eight inches to the left, (or in other words ten inches to the left front).

58 BREECH-LOADING CARBINE EXERCISE ON FOOT.

pushing it as far forward as possible into the barrel with the thumb of the right hand, (the fingers closed, knuckles upwards), seize the knob of the flap between the forefinger and thumb, and close the breech ; then carry the hand to the small of the butt, and hold it lightly, the thumb to the right of the knob pointing to the muzzle ; drop the outer case of the cartridge from the fingers of the left hand, when the cartridge has been removed.

“Cap.” Half-cock the Carbine, advance the fingers to the nipple, and with the forefinger throw off the old cap, the thumb to remain on the cock.

“Two.” Carry the hand to the cap-pocket and take up a cap between the forefinger and thumb, remaining fingers to be closed in the left hand, elbow to the rear.

“Three.” Place the cap upon the nipple, looking down while doing so, afterwards raise the eyes to the front.

“Four.” Press the cap home with the flat part of the thumb with the fingers closed in the hand, and against the lock-plate.

“Five.” Bring the hand to the small of the butt and hold it lightly, with the fingers behind the trigger-guard, the thumb on the right of the knob pointing to the muzzle.

“At yards, Ready.” Having (if necessary) adjusted the sight, and brought the right hand back to the small of the butt, full-cock the Carbine, holding it lightly, with the fingers behind the trigger-guard, the thumb at the right of the knob pointing to the muzzle, and fix the eye on some object in front.

Note.—When the ranks are doubled it is not recommended that Carbines should be fired with blank or ball cartridge by both ranks simultaneously. Should it, however, be necessary to do so, the front rank must

kneel on the right knee, and the word of command will be "At yards, front rank kneeling, ready."

"Present." Without moving the left hand from its grasp of the stock, or stooping, or raising the heels off the ground, bring the Carbine to the shoulder (carrying it to the front so as to clear the body as it ascends), press the centre of the butt firmly to the shoulder with the left hand, bringing the elbow well under the Carbine as a support, and raising the right elbow nearly square with, and to the front of, the right shoulder so as to form a bed for the butt; the right hand to hold the small lightly, with the thumb at the right of the knob pointing to the muzzle, which is to be a few inches below the object the right eye is fixed upon, the forefinger to be along the outside of the trigger-guard, and the left eye closed.

"Two." Place the forefinger round the trigger like a hook, that part of it between the first and second joints to rest flat upon the trigger, and restrain the breathing.

"Three." Raise the muzzle steadily until the top of the foresight is brought in a line with the object through the bottom of the notch of the back sight.

"Four." Press the trigger without the least jerk or motion of the hand, eye, or arm, until the cock falls upon the nipple, still keeping the eye firmly fixed upon the object.

"Five." Bring the Carbine to the capping position; if the flap has been raised shut it down, but without moving the sliding bar, and proceed as detailed in the second motion of "Prepare to Load."

Note.—As the Recruit will not get into the position above detailed without practice, and much care, the instructor will frequently command "As you were" (when the Carbine is to be brought down to the loading position without moving the eye from the object, or any part of the body but the arms), and point out the defects observed. By this means the Recruit will soon be accustomed to get into the position readily, and acquire a full command of his Carbine with his left hand.

60 BREECH-LOADING CARBINE EXERCISE ON FOOT.

WORDS OF COMMAND.

"Prepare to Load."

"Load."

"Cap."

"At yards ready."

"Present."

"Advance Arms"

TO ADAPT THE EXERCISE TO THE TERRY CARBINE THE FOLLOWING ALTERATIONS MUST BE MADE.

"Prepare to Load." Make a right half-face by raising the toes and turning on the heels, (the left foot to point to the front, the right foot to the right,) at the same time seize the Carbine with the left hand, the little finger to be in line with the elbow, which is to be close to the side, the right arm to be slightly bent.

"Two." Bring the Carbine to a horizontal position at the right side, grasping it firmly with the left hand, the little finger touching the projection in front of the lock-plate, the thumb between the stock and barrel, the left elbow to be close to the side as a support, the flat part of the butt to rest in the hollow of the side, in line with the hip; at the same time carry the left foot six inches to the front,* moving the body with it; take the top of the lever screw between the forefinger and thumb of the right hand, remaining fingers closed, knuckles outwards; open the lever by drawing it outwards, place the fingers against the side of the lever and turn it upwards to the left, then open the breech by drawing the lever backwards, with a pressure of the little finger, carry the

* This refers to the rear rank, the front rank advance their left feet six inches to the front, and eight inches to the left, (or in other words ten inches to the left front).

hand to the pouch, and take up a cartridge, holding it between the forefinger and thumb, bullet point foremost.

“Load.” Carry the cartridge to the fingers of the left hand, seize the tape at the end of the outer case of cartridge, between the forefinger and thumb of the right hand, and tear it straight down to the opposite end, remove the cartridge and place the bullet in the chamber, pushing it as far forward as possible into the barrel with the thumb of the right hand, (the fingers closed, knuckles upwards,) then close the breech by placing the flat of the hand behind the lever, and push the cartridge home into the barrel ; the lever is then turned down to the right and closed in to the side, then carry the hand to the small of the butt and hold it lightly, the thumb to the right pointing to the muzzle.

CARBINE EXERCISE ON HORSEBACK, FOR WESTLEY RICHARDS' BREECH-LOADING CARBINE.

The Squad is to be formed in a rank entire at double open files distance.

"Draw Arms." Take off the right-hand glove, and place it in the waist-belt; (fingers down) unbutton the flap of the Carbine bucket, and seize the Carbine by the small.

"Two." Draw the Carbine from the bucket, and bring it to the "Advance;" place the barrel between the forefinger and thumb of the left hand, then change the right hand from the small to the gripe, when the barrel may be quitted by the left hand; the Carbine should rest firmly in the hollow of the thigh, the muzzle pointing to the horse's near ear, but just clear of it.

In this position the Carbine is carried by detachments and advanced parties when near the enemy, and by videttes on service. It is that from which the soldier most readily prepares to fire, and which occasions the least fatigue.

"Prepare to Load." Place the Carbine in the palm of the left hand, the little finger touching the projection in front of the lock-plate, thumb between stock and barrel, the butt resting on the right thigh; seize the knob of the breech between the forefinger and thumb, raise the breech and carry the hand to the pouch, take up a cartridge, holding it between the forefinger and thumb, bullet point foremost.

"Load." Carry the cartridge to the fingers of the left hand; seize the tape at the end of outer case of cartridge between the forefinger and thumb of the right hand,

and tear it straight down to the opposite end ; remove the cartridge and place the bullet in the chamber, pushing it as far forward as possible into the barrel, with the thumb of the right hand (the fingers closed, knuckles upwards) ; seize the knob of the flap between the forefinger and thumb and close the breech, then carry the hand to the small and hold it lightly, fingers behind the trigger-guard.

“Cap.” Half-cock the Carbine, advance the fingers to the nipple, and with the forefinger throw off the old cap, the thumb to remain on the cock.

“Two.” Carry the hand to the cap-pocket, and take up a cap between the forefinger and thumb, the remaining fingers to be closed in the hand, elbow to the rear.

“Three.” Place the cap upon the nipple, looking down while doing so, and then raise the eyes to the front.

“Four.” Press the cap home with the flat part of the thumb, the fingers closed in the hand, and against the lock plate.

Note.—From this position the arms may be advanced if not required to fire.

“Five.” Bring the hand to the small, and hold it lightly, with the fingers behind the trigger-guard.

“At yards, Ready.” Having (if necessary) adjusted the sights, and brought the right hand back to the small, full-cock the Carbine, holding it lightly with the fingers behind the trigger-guard, and fix the eye on some object in front.

“Front Present.” Without moving the left hand from its grasp of the stock, bring the Carbine to the shoulder ; press the centre of the butt firmly to the shoulder with the left hand, at the same time bringing the left elbow well under the Carbine as a support and raising the right elbow nearly square with and to the front of the right shoulder, so as to form a bed for the butt ; the right hand to hold the small lightly, with the thumb at the right of the knob pointing to the muzzle, which is to be a few inches below the object the eye is fixed

upon, the forefinger to be along the outside of the trigger-guard, and the left eye closed.

Note.—Preparatory to firing to the front the horses' heads must invariably be turned off to the right, "right half turn." The greatest care must be taken not to disturb the feeling of the bridle in the horse's mouth, and with this view the motions must be made as smoothly and quietly as possible, and, if necessary, the reins may be a little lengthened.

"*Two.*" Place the forefinger round the trigger like a hook, that part of it between the first and second joint to rest flat upon the trigger.

"*Three.*" Raise the muzzle steadily until the top of the fore sight is brought in a line with the object through bottom of the notch of the back sight.

"*Four.*" Press the trigger without the least jerk or motion of the hand, eye, or arm, until the cock falls upon the nipple, still keeping the right eye firmly fixed upon the object.

"*Five.*" Bring the Carbine to the loading position, open the breech and carry the hand to the pouch, take up a cartridge, and proceed as detailed under the head of "Prepare to Load."

"Load" as before detailed, and so continue by motions until the Recruit is habituated to combine them in regular order.

Note.—The Carbine may be brought down to the "Advance" after firing.

Preparatory to firing to the left, the horses must be turned to the right in order to avoid accidents.

"*Ready.*" As before.

"*Left Present.*" Raise the Carbine to the "Present" to the left with the right hand; and in order to steady it, rest the barrel on the left arm, near the elbow, which, for this purpose, is to be raised almost as high as the shoulder.

"*Advance Arms.*" As before.

Note.—The squad being proficient in the platoon exercise by numbers should next go through it in quick time as on foot.

From the “Advance” the arms may be carried or returned.

“*Carry Arms.*” Without altering the grasp of the right hand raise the Carbine, and place the butt in the hollow of the right thigh, where the hand previously rested ; the muzzle to lean to the front, the elbow near the side.

In this position Carbines are carried by Advance Guards in marches of parade.

“*Return Arms.*” By lowering the muzzle carry the Carbine to the bucket, and lower it gently down, button the flap, put on the right hand-glove, and resume the position of “Attention.”

TO ADAPT THE EXERCISE TO THE TERRY CARBINE THE FOLLOWING ALTERATIONS MUST BE MADE.

“*Prepare to Load.*” Place the Carbine in the palm of the left hand, the little finger touching the projection in front of the lock plate, the thumb between the stock and barrel, the butt resting on the right thigh ; take the top of the lever screw between the forefinger and thumb of the right hand, remaining fingers closed, knuckles outwards ; open the lever by drawing it outwards, place the fingers against the side of the lever and turn it upwards to the left, then open the breech by drawing the lever backwards with a pressure of the little finger, carry the hand to the pouch, and take up a cartridge, holding it between the forefinger and thumb, bullet-point foremost.

“*Load.*” Carry the cartridge to the fingers of the left hand, seize the tape at the end of the outer case of

66 BREECH-LOADING CARBINE EXERCISE ON HORSEBACK.

cartridge between the forefinger and thumb of the right hand, and tear it straight down to the opposite end, remove the cartridge and place the ball in the chamber, pushing it as far forward as possible into the barrel with the thumb of the right hand (the fingers closed, knuckles upwards), then close the breech by placing the flat of the hand behind the lever, and push the cartridge home into the barrel ; the lever is then turned down to the right and closed into the side.

PISTOL EXERCISE.

PISTOL EXERCISE.

THE Squad, being mounted, is to be formed as for the Carbine Exercise.

"Draw Pistol." *"1st Motion."* Take off the right-hand glove, and push forward the cloak, or draw back the sheepskin and shabraque, according to the equipment, and seize the butt of the Pistol with the right hand under the left arm.

"2nd Motion." Draw the Pistol carefully, and bring it at once to the position in which the sword is *"Carried,"* the muzzle upright, the cock resting in the hollow between the thumb and the hand, the lower fingers relaxed and extended along the butt. This position is called the *"Advance."*

"Prepare to Load—Load—Rod—Home—Return—Cap—Ready." These several motions are to be made in the same manner as directed for the Carbine.

"To the Front Present." From the left hand raise the Pistol with the right, till the breech be nearly as high as, and in line with, the right eye, with the muzzle lowered to the object; the hand lightly grasping the butt, the arm a little bent, and without stiffness, in order to keep the Pistol more correctly to its aim, and to avoid the shock of a recoil.

"Fire." *"Load."* As before directed.

Preparatory to firing to the right, or left, the Squad must turn their horses, as directed in firing to a flank with the Carbine.

"Ready." As before.

"To the Left Present." The Pistol to be carried to the left, and raised and levelled as directed in presenting to the front.

"Load." As before.

"To the Right Present." The Pistol is carried to the right, and is raised and levelled as directed in presenting to the front.

"Fire." *"Load."* As before.

"To the Rear Present." Carry the Pistol as far towards the rear as the body, turned in that direction, will admit; take the aim, and hold the Pistol in the same manner as directed for presenting to the front.

"Fire," &c. As before.

"Return Pistol." *"1st Motion."* Drop the muzzle under the bridle-arm, and place the Pistol carefully in the holster.

"2nd Motion." Bring the right hand to its position by the thigh.

LANCE EXERCISE.

LANCE EXERCISE.

Instruction with the Lance on Foot.

“Words of Command.” THE several motions are explained in the instructions in terms applicable to the mounted practice ; but the whole of the exercise is to be taught on foot before the recruit attempts to perform it on horseback.

On the command “Form for Lance Exercise,” the right of fours of both ranks stand fast, *the remainder face to the right.*

On the command “Quick March,” the right of fours of the front rank advance, extending until each has got an interval of four paces from the man on his flank which is the nearest to the centre of the line, the remainder follow in succession at a distance of four paces, —first the front rank and then the rear.

Note.—The centre of the line, in the case of three or four squadrons, would be the leading left flank file of the second squadron. In the case of two squadrons, the leading right flank file of the second squadron, and of one squadron the right hand man of the left troop.

On the command “Front form Ranks,” squadron and troop leaders move up to a distance of four paces from the leading files of their squadron, and face about : leaders of the second squadron giving a base, the men make a half face inward towards the centre of their squadron.

On the command “Quick March,” the leading centre men of squadrons move up to their leaders, the remaining rights of fours move up with them, correcting the interval on their flank to two paces, and the front rank forms on them ; the centre rear rank men of squadrons move up four paces and “mark time,” until this rank, which forms in the same manner as the front rank, is completed, when they move up together, halting three

paces in rear of their front rank. Squadron intervals are then corrected by order of the Commanding Officer.

The mounted position is to be retained throughout the drill, commencing with the "Engage." As the lance is brought under the arm, the right foot is carried 20 inches to the right, and the bridle hand placed as described in the military equitation. At the command "Carry lance," the right heel is brought to the left, and the left hand to the side.

"*Carry Lance.*" The lance is to rest near the man's foot, the right hand grasping the pole as high as the shoulder, back of the hand to the front, elbow down.

"*Order Lance.*" From the "Carry," the right hand is to slide down the pole to the extent of the arm, the thumb remaining next the body, and the fingers on the outside of the lance.

"*Shoulder Lance.*" The lance is raised about twelve inches from the ground, sloping a little backwards over the right shoulder, the right elbow close to the hip, and the hand in line with the elbow.

"*Support Lance.*" From the "Carry" the hand to shift to the balance, with the back of the hand to the rear, the butt is raised and brought across the body to the left front, supported at the balance in the right hand with the thumb outside the pole.

Note.—This position is necessary when the soldier is on sentry with the lance.

Mounting with the Lance.

"*Stand to your Horse.*" The lancer stands square to the front, in line with his horse's fore feet, holding the bridoon rein with the right hand near the bit, and the lance at the "Carry" in the left hand.

"*Prepare to mount.*" As directed in the system of equitation. The lance to be grasped at the balance by the left hand, with the reins and mane.

"*Mount.*" As usual, keeping the point of the lance well up, to prevent it from touching the men or horses near it in the ranks. As soon as the lancer is seated in his saddle, the lance is grasped by the right hand, below the balance under the bridle hand.

“*Two.*” The lance is brought smartly up, and held perpendicular for a moment, with the right hand in front of the face, and the butt of the lance on a line with the elbow; it is then lowered carefully into the bucket and brought to the position of “Carry lance.”

“*Prepare to dismount.*” The right hand slides down the pole of the lance to the extent of the arm.

“*Two.*” The lance is brought smartly up and held perpendicular for a moment; then lowered under the bridle arm, and grasped at the balance by the left hand, with the reins and mane.

“*Dismount.*” As usual. The hand should press upon the butt end of the pole, and keep the point well raised (to prevent accident) until the lancer “stands to his horse,” with the lance at the “Carry” in the left hand.

Dismounting on the “off” side may be often useful, and sometimes even necessary. It should be frequently practised in the riding school, in order to prove the activity of the men, and the steadiness of the horses. It is done by reversing the motion of dismounting. After the man has well secured the lance, reins, and mane in the right hand, the left hand grasps the sword, and lays it across the front of the saddle, the point to the right; the man dismounts to the “off” side, with the lance at the “Carry” in the right hand.

Mounting on the “off” side is performed by reversing the motions of mounting on the near side. The lancer must be attentive that he does not entangle himself with his sword, which is passed over behind him, when he is bringing down his left leg into the saddle.

Royal escorts, orderlies attending royal personages, and general and other officers on duty “Trail lance.”—Orderlies carrying despatches or returning, and detached men, “Sling lance,” except when passing guards, armed parties, and officers and others entitled to salutes, when they “Carry lance.”

On the line of march, or on any other occasion when “Riding at Ease” the lance is slung, but on parade when a regiment is required to “Sit at Ease” the word

of command is "Order lance, Sit at Ease."—In the former instance the leaders and serrefiles return swords, but in the latter they do not, but sit at ease as laid down in the instructions for sword exercise.

"*Carry Lance.*" The lance is to rest with the butt end in the bucket, and to be kept upright by the right hand, which is to grasp the lance as high as the shoulder, back of the hand to the front, elbow down.

"*Order Lance.*" The lance falls against the hollow of the right shoulder, and the right arm extends down the shaft as on foot.

"*Trail Lance.*" Raise the lance out of the bucket, lower the point to the left front, in the direction of the horse's near ear, the hand resting on the thigh, and the point as high as the peak of the chaco.

"*Left Arm Sling Lance.*" The right hand slides down the pole of the lance to the extent of the arm.

"*Two.*" The lance is brought smartly up as high as the face, held perpendicular for an instant, then placed in the left bucket outside the bridle arm.

"*Three.*" The right hand then slides down the lance until it touches the bridle hand; when holding the lance between the thumb and forefinger, the remaining fingers of the right hand are passed over the reins which are held by them, with the back of the hand up; the left hand thus disengaged is passed through the sling and again resumes the reins.

"*Carry Lance.*" The right hand takes the reins with the back of the hand up, and the left drops down to the full extent of the arm, taking hold of the lance.

"*Two.*" The left arm sweeps the lance to the front, and disengaging the arm from the sling allows the lance to fall against the left shoulder, and immediately takes the reins.

"*Three.*" The right hand then drops down to the full extent of the arm under the bridle hand, taking hold of the lance and bringing it smartly up, hand as high as the face, where it is held perpendicular for a moment and dropped into the bucket.

“Dressing.” As usual. The lance is brought to the position of “Order lance.” As soon as the dressing is completed and the command “Eyes front” given, the position of “Carry lance” is resumed.

Formation for Lance Exercise Mounted.

“From the right of Fours to the front file.—March.” The whole move forward in succession by the squadron of direction, taking distance of a horse’s length from the head of one horse to the croup of another; the right hand man of the left troop of each squadron preserving his former position with respect to the squadron leader. All serrefiles remain in the rear, covering the left of Fours.

“Lance Exercise.—First Division.—Second Division.” The exercise may be performed at the halt, the walk, or the gallop; if on the move, the “Lance Exercise” is gone through to the front, the “First Division” to the rear (by going files right about), and the “Second Division” to the front (also by files right about).

“Retreat.”—The files are again put about at the trumpet signal “Retreat.”

“Rally.” Having retreated to the original or parade line, the ranks are re-formed to the proper front; at the trumpet signal “Rally,” officers halt, and take up their alignment, whilst the men turn right about, and form upon them, without hurrying or rushing up confusedly into the ranks.

Each command to be followed by the Trumpet Signal.

“Front form Squadron.—March.” Should the exercise be performed at the “halt,” the ranks are re-formed by the command “Front form Squadron,” “March,” or by the trumpet signal “Rally,” followed by the word “March.” Each man then moves up at a trot into his place.

Proving Distance for Lance Exercise at the Halt.

“Engage.” As directed in the “Lance Exercise.”

“Right, prove distance.” Carry the point of the lance to the right, turning the body in the same direction.

“Two.” Extend the arm cautiously with the lance, and should the distance be insufficient, “passage” to the left.

“Three.” Withdraw the lance, bringing the hand close to the body.

“Four.” Carry the point of the lance to the “Engage,” turning the body to the front.

“Front, prove distance.” Extend the arm cautiously with the lance to the front, and should the distance be insufficient “rein back.”

“Two.” Withdraw the lance to the “Engage.”

“Carry Lance.” Raise the point of the lance, and place the butt in the bucket.

Lance Exercise.

Note.—In performing this exercise the lancer is not to change the grasp of his weapon, but to retain the same hold throughout, as at the “Engage.”

“Engage.” The hand to slide down the lance to the balance. Raise the lance out of the bucket and lower the point of it to the front, placing the pole under the right arm, the point on a line with the butt, the hand holding the lance at the balance, and close to the body.

“Round Wave.” Move the point of the lance smartly to the left.

“Two.” Carry it on the same line to the right.

“Three.” Again move it direct to the front.

Note.—The round wave to be made strong and quick, the lance level and firm under the arm, the seat steady in the saddle, moving the body from the hips upwards.

“First Point.” Deliver the point with force at the body of the antagonist by extending the arm to the

front, raising it on a line with the shoulder, and turning the back of the hand upwards ; after the point has been delivered, withdraw the lance quickly to the "Engage."

"Right Front—Second Point and Thrust." Bend both knees, lower the lance and draw it back without altering the grasp, raising the elbow to the rear of the body over the hand, the body leaning forward, and the right shoulder thrown back, the point of the lance directed to the right front.

"Two." Deliver the point with force at the body of the antagonist by extending the arm, raising it on a line with the shoulder, and turning the back of the hand upwards ; after the point has been delivered withdraw the lance quickly to the first position.

"Three." Carry the point of the lance to the rear, over the head, by the left front, arm extended to the rear, butt of the lance directed against cavalry.

"Four." Strike with the butt at the head of the adversary, leaning the upper part of the body well over to the right front to give force to the blow ; then draw back the lance to the position of thrust.

"Parry." Lower the lance on the right side, holding it perpendicular, with the point over the butt, the hand on a line with and about six inches from the right shoulder, which is to be well thrown back, with the elbow raised and arm bent.

"Two." By a quick motion carry the lance to the front past the horse's shoulder, parrying forcibly with the butt, and then bring the lance back again to the first position.

Note.—This parry is intended to ward off a sword point or bayonet thrust aimed at the right side, and can be also used on the left side.

"Right Rear—Third Point." Lower the point of the lance to the rear, raising the butt and bringing it over the horse's neck to the left, there placing it across the bridle hand, the right hand turned down close to the body,

holding the lance with the point directed to the right rear, the upper part of the body turned in the same direction.

“*Two.*” Deliver the point with force at the body of the antagonist by extending the arm, and leaning the body well over, throwing back the right shoulder in doing so ; after the point has been delivered, withdraw the lance quickly to the first position.

“*Left Rear—Fourth Point.*” Raise the lance over the head, and by a circular motion carry the point by the rear, then lower the lance until it reaches the bridle hand, the point directed to the left rear, the right hand with the elbow well raised about eighteen inches from the left one, the body well turned on the hips to the left rear.

“*Two.*” Deliver the point with force at the body of the antagonist, by extending the arm and throwing back the left shoulder, and as the arm extends, catch the butt firmly under it close to the body ; after the point has been delivered, withdraw the lance quickly to the first position.

“*Thrust.*” Raise the lance and carry the point by the rear, extend the arm upwards to the right, raising the butt as high as the forehead.

“*Two.*” Strike with the butt at the head of the adversary, leaning the upper part of the body well over to the left to give force to the blow ; then draw back the lance to the first position.

“*Left Front—Fourth Point.*” Raise the lance over the head by a circular motion, carry the point by the rear to the left front, then lower it to the position for fourth point.

“*Two.*” As before directed in fourth point.

“*Carry Lance.*” Raise the point, bringing the lance perpendicular on the right side ; the butt is then placed in the bucket.

WORDS OF COMMAND.

Lance Exercise.

	Engage.
Round,	Wave and
	First Point.
Right Front,	Second Point and Thrust.
	Parry.
Right Rear,	Third Point.
Left Rear,	Fourth Point.
	Thrust.
Left Front,	Fourth Point.
	Carry Lance.

FIRST DIVISION.

(Against Cavalry.)

“*Engage.*” Lower the point to the front, and bring the lance under the right arm, as directed in the “Lance Exercise.”

“*Right Front, Wave, Second Point, & Thrust.*” Carry the point of the lance to the right front.

“*Two.*” Make the “Wave” short and quick to the right and left, about eighteen inches each way, and withdraw the lance for second point.

“*Three.*” Deliver the point to the full extent of the arm, and quickly withdraw the lance and prepare for thrust as in lance exercise.

“*Four.*” Deliver the thrust and return to the position of thrust.

Note.—The motions of the wave should follow each other in quick succession, as the object is to agitate the flag and cause it to vibrate and thereby alarm the adversary’s horse, and also to deceive the opponent as to the precise spot at which the point will be delivered.

In independent practice the wave may be repeated *ad libitum* without stopping between each.

“Left Front, Wave, Fourth Point, and Thrust.” Lower the lance to the “Engage,” with the point to the left front.

“Two.” Make the “Wave” left and right, and withdraw the lance for fourth point.

“Three.” Deliver the point, and quickly withdraw the lance and prepare for thrust to left front.

“Four.” Deliver the thrust and return to the position of “Thrust.”

“Right Rear, Third Point.” Lower the point of the lance to the right rear, with the back of the hand down for third point.

“Two.” Deliver the point to the full extent of the arm, and quickly withdraw the lance.

“Left Rear, Fourth Point.” Bring the lance smartly to the position of left rear, fourth point.

“Two.” Deliver the point to the full extent of the arm and quickly withdraw the lance.

“Carry Lance.” Raise the point, bringing the lance perpendicular on the right side; the butt is then placed in the bucket, and hand raised to the Carry.

Words of Command.

FIRST DIVISION.

(Against Cavalry.)

Engage.

“Right Front,” Wave, Second Point, and Thrust.

“Left Front,” Wave, Fourth Point, and Thrust.

“Right Rear,” Third Point.

“Left Rear,” Fourth Point.

Carry Lance.

SECOND DIVISION. (Against Infantry.)

"Engage." Lower the point to the front, and bring the lance under the right arm, as directed in the "Lance Exercise."

"Right Front, First Point, & Thrust." Lower the point of the lance to the right front, directing it downwards against infantry.

"Two." Deliver "First Point," and after extending the arm withdraw the lance.

"Three." Raise the point over the left shoulder, extending the arm upwards, and the butt directed downwards for "Thrust."

"Four." Deliver the "Thrust," and after extending the arm as far as the grasp of the lance will admit, withdraw it to the position of "Engage."

"Left Front, First Point, & Thrust." Lower the point of the lance to the left front for first point, directing it against infantry.

"Two." Deliver the "Point," and after extending the arm withdraw the lance.

"Three." Raise the point over the left shoulder to the right rear, extending the arm upwards, and the butt directed downwards for "Thrust."

"Four." Deliver the "Thrust," and after extending the arm as far as the grasp of the lance will admit, withdraw it to the position of "Thrust."

"Right Rear, Third Point." Lower the lance, placing it across the bridle hand, the point directed downwards to the right rear for "Third Point."

"Two." Deliver the point to the full extent of the arm, and quickly withdraw the lance for "Third Point."

"Left Rear, Fourth Point." Raise the lance over the head, and by a circular motion carry it to the left rear, with the point directed downwards for fourth point.

"*Two.*" Deliver the "Fourth Point," extending the arm, and quickly withdraw the lance for "Fourth Point."

"*Carry Lance.*" Raise the point, bringing the lance perpendicular on the right side ; the butt is then placed in the bucket.

Note.—The lancer in lowering his lance for the points to the right and left front, will make a sharp parry outwards, so as to parry off the point of a bayonet or other weapon.

WORDS OF COMMAND.

SECOND DIVISION.

(Against Infantry.)

Engage.

Right Front, First Point, and Thrust.

Left Front, First Point, and Thrust.

Right Rear, Third Point.

Left Rear, Fourth Point.

Carry Lance.

For using the Pistol.

"*Sling Lance.*" From the "Carry" the hand is passed through the sling, the right hand to rest on the thigh, near the hip, with the knuckles down, elbow bent outwards, without stiffness.

"*Draw Pistol.*" As directed in the Pistol exercise.

"*Return Pistol.*" As usual.

"*Carry Lance.*" The right hand is to grasp the lance below the balance, back to the front.

"*Two.*" The lance is brought forward by the right hand sliding up the pole so as to disengage the elbow ; the hand is then reversed and the lance carried.

OBSERVATIONS.

When ordered to "disperse" in pursuit at field days, the men should be practised to perform the right attack

of the first and second divisions, circling their horses at a gallop to the right, and the left attack in circle to the left, taking care that the horses are not galloping false to either hand, and also causing them to "change" at the proper time.

In the attack in line the lances of the front rank are brought to the "Engage" at the command, "The line will attack." It is good practice to make long advances in line with the lances of the front rank at the "Engage," to steady the horses, as they are apt to become excited when the lances are brought down, if only done occasionally in the charge.

After a charge, or attack in line, the lances are raised to the "Carry" at the command, "Halt."

The lancer should be well instructed in the use of his weapon, both in confined situations, as the *mêlée*, and in the single combat; the heads and posts will afford good practice without the risk of accident, the butt of the lance being used to parry off the wooden arms, and the point to take off the rings and heads. Blunt lances properly balanced would be the best for this practice, until the men are expert, and the horses under perfect control.

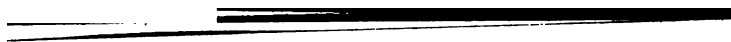
A firm seat and light hand are indispensable to the lancer; his horse ought to be stout, active, and well broken, taught to leave the ranks freely, to disperse or attack independently, as in skirmishing, rallying again to any given point at the trumpet signal.

In action the lancer has a decided advantage over those armed with the sword or bayonet, from his greater length of reach and the deadly effect of his lance point; he should, therefore, feel confidence in his weapon and ride boldly at his object.

It will be good practice to let the men attack and defend themselves in circles, as they thereby acquire expertness and power in the use of their weapons and the command over their horses. This manner of attack and defence should be practised with blunt lances and sticks and baskets, both upon the right and left circle.



STANDING GUN DRILL.



STANDING GUN DRILL.

The Cavalry may, in the exigencies of service, be called upon to assist the Artillery in working the guns, and a sketch of the duties that they may be required to perform, extracted from the "Manuals of Artillery Drills and Exercises" is annexed. For more extended information as to the duties of the artilleryman reference must be made to the manuals themselves.

The field artillery being armed with the Armstrong breech-loading cannon, the drill for that species of ordnance is printed in this work.

Telling off the Detachments.

1. The instructor of the drill should bear in mind, that in every change of numbers at the gun exercise, each recruit has to learn different duties, and to handle different implements from those he was previously engaged with; and these again vary with the several natures of ordnance and machines, all which an artilleryman must be master of; it is therefore impossible that such a variety of exercises can be well executed or even remembered, unless the recruit is made to comprehend the object and motive of the various duties which he is called upon to perform.

2. For the purpose of instructing the recruit, each gun detachment is to be formed in front of the gun, and the different numbers are to be called upon successively to perform their respective duties, while the rest of the detachment look on and observe their motions; and when it is found difficult to make the recruit sensible of the defect of his position, &c., the instructor will place himself, or another

recruit in the correct position ; the long verbal explanations relative to the disposition of every part of the body and limbs, which drill serjeants usually recite relative to every motion, cannot be retained by the memory of every recruit, and are for the most part a loss of time.

3. Great patience and the utmost precision are necessary on the part of the instructor. He should more especially endeavour to excite a spirited and active deportment in the recruits at every military exercise, and above all be particularly careful not to disgust them by too long an application to any one point in the drill.

ARMSTRONG FIELD GUNS.

Standing Drill.

The gun detachment, consisting of one non-commissioned officer and eight gunners, is drawn up two deep in rear of the gun, and told off from the right. The even numbers in the front rank and the odd numbers in rear, with the exception of No. 1, who falls in on the left of the front rank.

In numbering off the detachment, No. 1 takes a pace to his front with his left foot, and faces to the right.

Position and General Duties when in Action.

No. 1 stands on the right side of the gun, between the breech and wheel, points, commands, and adjusts the fuze.

No. 2 stands on the left side of the gun between the breech and wheel, takes out and puts in the plug of the water bucket, screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready, and fires.

No. 3 stands one yard in rear of and covering the right wheel, ships and unships the handspike, puts in the shell and cartridge, and traverses (when necessary) with the handspike.

No. 4 stands one yard in rear of and covering the left wheel, sponges, and rams home.

No. 5 stands five yards in rear of the right wheel, and supplies No. 3 with ammunition from No. 7.

No. 6 stands in rear of the off limber box, prepares and serves out ammunition to No. 7.

No. 7 stands ten yards in rear of No. 5, and supplies him with ammunition from No. 6.

No. 8 stands in rear of the near limber box, and assists No. 6.

No. 9 attends the ammunition waggon.

Positions when mounted.

Nos. 2 and 3 on the gun limbers.

Front rank.—5, 12, 4, 1, } 11, 12, 13, are horse holders.
Rear rank.—6, 13, 7, 11, }

Action.—At the word, No. 1 faces to his left.

No. 2 takes the lanyard out of his tube pocket, which is on his right side, places his right hand through the loop, and winds the lanyard round his wrist, then (when water is used) takes the plug out of the water-bucket.

No. 3 faces to his left, ships the handspike, and remains facing the trail one pace to the left of No. 1.

No. 4 faces to his right, takes an oblique pace to his left front, unbuckles the sponge, and brings it perpendicular, resting the rammer head on his right foot.

No. 6 takes out a shell, unscrews the plug, takes out a percussion fuze from the box, inserts the fuze in the shell on the top of the burster; if necessary, screws in a time fuze tightly to the left, and then with a spanner loosens the nut, so as to free the collar; if a time fuze is not required, he screws the metal plug in instead. He then takes out a cartridge.

No. 8 assists 6 in these duties, by removing the waterproof tape from the fuze-box, handing him fuzes, &c.

Nos. 5 and 7 remain steady until the word "Load" is given.

Load.—At the word, No. 1 adjusts the scale of elevation and deflection, repeats aloud the nature of the projectile which is to be used, and when it is shell, adjusts the fuze by moving the collar with the forefinger and thumb of the left hand, until the arrow points to the required length of fuze; with the forefinger and thumb of the right hand he screws up the nut carefully, steadying the collar at the same time with his left, and finally tightens the nut by inserting it in the socket on the axletree-box,

giving the shell a slight turn towards the trail. He then hands the shell to No. 3. When the sponge is withdrawn he looks up the bore, and if he is satisfied it is clean (especially that portion where the rifling begins) he gives the word "Shell."*

No. 2 unscrews the breech with his right hand, back down, forcing the lever from him, takes out the vent-piece with his left hand, steps out clear of the wheel, and cleans the vent-piece, if necessary, resting it on the nave of the wheel.

No. 3 receives a shell from No. 5, hands it to No. 1 for him to adjust the fuze, should a time fuze be used, and waits to receive it from him again.

† No. 4 brings the sponge, horizontal, the left hand back under, the right hand back up, and the sponge-head to the front; takes a pace to the left with his left foot, puts the sponge into the bucket, if water is used, then sponges out the gun thoroughly, and withdraws the sponge, keeping it horizontal, while No. 1 examines the bore.

No. 5 doubles to the rear and receives a round of ammunition from No. 7, taking the shell in his right hand, point to the left, and the cartridge is in his left hand, back of both hands up, the cartridge covered by his right arm; places himself on the left of No. 3, gives the shell to him, back of the hand down, then the cartridge, and doubles to the rear to No. 7 for another round. No. 7 doubles to the limber, takes a round of ammunition from No. 6, shell in his left hand, cartridge in his right, back of both hands down, the cartridge covered by his left arm, and hands them to No. 5. Supplies himself with another round and resumes his position 10 yards in rear of No. 5.

Shell.—At the word, No. 3 puts the shell into the bore, the point to the front, and takes a cartridge from No. 5.

No. 4 reverses his sponge, places the rammer head carefully against the base of the projectile, slips the left hand

* No. 1 should be particularly careful in examining the bore of all breech-loading guns to see that they are clear, for in the event of a tampon or any other obstruction remaining in the muzzle, there is every chance of the gun bursting on being fired.

† When Boxer's lubricators are used the guns should not be sponged.

to the right, sees that the stave is in prolongation of the axis of the gun, and with a very sharp motion forces the projectile quickly into the chamber. He then remains steady until the word "Cartridge," when he springs the sponge.

The low gauge shot should be projected by No. 4, at drill, about three yards from the muzzle.

No. 1 when he sees that the shell is properly home, gives the word "Cartridge."

Cartridge.—No. 5, as soon as No. 3 has placed the shell in the bore, hands him a cartridge, doubles to the rear, and supplies himself with a round of ammunition from 7, and resumes his former position, five yards in rear of the right wheel. No. 3 places a cartridge in the breech, the choked end to the front, falls back to the end of the handspike, and traverses the gun approximately into the line of fire.

No. 4 presses the cartridge gently home, and waits for the word "Home."

No. 1, when he sees that the cartridge is in its proper place, gives the word "Home."

Home.—At the word, No. 2 steps up to the gun, drops the * vent-piece into the slot, face to the front, removes his left hand, screws up the breech with his right, back up, giving the cam two taps with the lever. He then hooks a tube to the lanyard, back of the hook down, uncoils the lanyard from his wrist, and holds the tube in his right hand.

No. 4 withdraws the sponge, brings it perpendicular as before, and steps to the rear, clear of the wheel.

The gun having been loaded, and scales adjusted, No. 1 lays hold of the upper part of the traversing wheel with his right hand, rests his left arm on the breech of the gun to steady himself, and works the traversing and elevating screws with his right hand; looking through the centre of the slit on the tangent scale; he moves the gun until

* N.B.—The instructor cannot be too careful in impressing upon the minds of the men, that if the vent-piece is retained in the hand it may be screwed up out of its place, when in all probability it will be blown out of the slot of the gun, whereas, if left to itself, it must find its proper place.

the point of the trunnion sight is brought into line with the object. By turning the upper part of the traversing wheel to the rear, the muzzle moves to the right, and vice versa.

The gun having been accurately laid, No. 1 gives the word "Ready," and, unless otherwise ordered, runs down the tangent scale, places himself where he can best observe the target, and gives the word "Fire."

Ready.—At the word, Nos. 2 and 3 step clear of the wheels, but still facing the trail.

No. 2 drops the tube into the vent, steps to his rear, clear of the wheel, holding the lanyard at the full extent of his arm.*

Fire.—No. 2 draws the lanyard strongly towards his body. When the gun is fired, Nos. 1, 2, 3, and 4 step up to the side of the trail, into their previous positions.

No. 2 coils up the lanyard round his right wrist.

The carriage is placed in the position it occupied before recoil; Nos. 1 and 2 push against the axletree, 4 and 5 at the wheels, and 3 at the point of the handspike. "Halt."

Cease Firing.—At the word, No. 1 faces to the front.

No. 2 replaces the plug in the water-bucket (if water has been used), the lanyard in the tube pocket, and faces to the front.

No. 3 unships the handspike, buckles it on the trail, and resumes his former place in rear of the right wheel—facing to the front.

No. 4 buckles the sponge on the trail, and resumes his former place in rear of the left wheel—facing to the front.

No. 5 doubles to the rear with his ammunition to No. 7, and falls into his place.

No. 7 gives his own ammunition, and then that of No. 5, to No. 6, and falls into his place.

No. 6 replaces the ammunition in the limber box, assisted

* Great attention must be drawn by the instructor to the danger of a practice very common where guns are firing together, viz., that of No. 1 stepping up to look through the sights after the word "Ready" has been given, and the lanyard drawn taut. In this case the fall of No. 2, if hit, in all probability would involve at least serious injury to No. 1, by the recoil of the gun over him.

by No. 8. If a shell has been prepared he removes the fuze or fuzes, replaces them in their respective boxes, and screws the metal plug into the shell.

No. 1, unless otherwise ordered, fixes the tangent and deflection scales at zero.

Note.—No. 6 should be a non-commissioned officer, and have special charge of the limber when the gun is in action.

Changing Rounds when in "Action."

No. 1 becomes No. 3.

" 3	" "	5.
" 5	" "	7.
" 7	" "	9.
" 9	" "	8.
" 8	" "	6.
" 6	" "	4.
" 4	" "	2.
" 2	" "	1.

No. 2 changes by the front.

Changing Rounds when the gun is limbered up.

No. 2 becomes No. 4.

" 4	" "	6.
" 6	" "	8.
" 8	" "	1.
" 1	" "	9.
" 9	" "	7.
" 7	" "	5.
" 5	" "	3.
" 3	" "	2.

Form the Order of March.—Left Face.—At the word,—the detachment being formed two deep in rear of and facing the gun,—No. 1 gives the word to face to the left, faces with the detachment, steps to his left, and heads the rear rank.

Double, March.—No. 8 countermarches to his right, followed by the remainder of the front rank, and doubles up on the right of the gun. No. 1 wheels to the right, followed by the rear rank, and moves up on the left of the gun.

Positions. The odd numbers stand on the left, the even on the right side of the gun, in the following order :—

Nos. 2 and 3 in line with the axletree of the gun carriage.

Nos. 4 and 5 in line with the centre of the trail.

Nos. 6 and 7 in line with the axletree of the limber.

Nos. 8 and 9 in line with the splinter-bar.

The numbers stand covering one yard clear of the wheels.

No. 1 stands in line with the point of the near shaft, and two yards from it.

Detachment Rear.—At the word, No. 1 gives the order for the detachment to face to the right about.

Right about Face.—The detachment face accordingly.

Double, March.—*Halt, Front.*—The whole step off together. Nos. 2 and 3 incline inwards, and when opposite the muzzle, and two yards from it, they wheel to their left, and mark time opposite the tire of the wheel. The other numbers follow, and when the detachment is square No. 1 gives the words "Halt," "Front."

Detachment Right.—At the word, No. 1 gives the order for the detachment to face to the right.

Right Face.—The detachment face accordingly.

Double, March.—They step off together.

Front Turn.—No. 1 gives the order when he is one yard clear of the right wheel, and the detachment turn to the front.

Halt.—No. 1 halts the detachment when in line with the axletree of the gun carriage.

Form the Order of March.—*Left Face.*—At the word, No. 1 orders the detachment to face to the left, faces with it, steps to his left, and heads the rear rank.

Double, March.—No. 1 wheels to the left, followed by the rear rank. They double round the muzzle of the gun, and move into their places on the left side of it. No. 8 wheels to the right, followed by 6 ; and Nos. 2 and 4 double into their places.

Detachment Rear.—Executed as before detailed.

Detachment Left.—At the word, No. 1 gives the order for the detachment to face to the left.

Left Face.—They face as directed.

Double, March.—They step off together.

Front Turn.—They turn to the front by the order of No. 1, when one yard clear of the left wheel.

Halt.—They are halted when in line with the axletree of the gun carriage.

Form the Order of March.—Left Face.—No. 1 heads the rear rank as before.

Double, March.—The detachment countermarches to the left. No. 1, when within one yard of the left wheel, wheels to his left, and leads up on the left side of the gun. No. 8 leads round the muzzle and up the right side of the gun.

Detachment Front.—At the word, No. 1 doubles out straight to the front, halts when fifteen yards from the shafts, and faces to the right.

Double, March.—No. 1 then orders the detachment to march. They step off together, No. 8 marching straight to his front, and No. 9, after passing the points of the shafts, closing in to No. 8. When they arrive in line with No. 1, they wheel to their left, and mark time when close up to him.

Halt, Front.—The detachment halt, and face to the right, except No. 1, who faces to his left.

Form the Order of March.—Right Face.—At the word, No. 1 orders the detachment to face to the right, faces with it, steps to the right, and covers the rear rank.

Double, March.—The whole step off, wheel to the right and when opposite the points of the shafts, Nos. 2 and 3 open out, and the detachment double into their places. The numbers are to look to No. 3, and take the time from him to face to the right-about together.

Detachment Rear.—As before detailed.

Detachment Front.—Right face.

Double, March.—No. 1 orders the detachment to march.

Front Turn.—When one yard clear of the off wheel, No. 1 gives the word, and the detachment turn to their left, and dress by their left.

Left Turn.—When fifteen yards in front of the points of the shafts, No. 1 gives the word, and the detachment turn to their left.

Halt, Front.—When opposite the near wheel, No. 1 gives the word, and the detachment halt, and face to the right.

Detachment Rear.—Right Face.—At the word, No. 1 orders the detachment to face to the right, and they face accordingly.

Double, March.—They step off together.

Rear Turn.—They turn to the rear when one yard clear of the right wheel.

Right Turn.—They turn to the right when two yards clear of the muzzle of the gun.

Halt, Front.—And, finally, they halt and front when in rear of the gun.

Limbering-up when in Action.

Rear Limber-up.—At the caution, No. 4 places himself between the muzzle and the wheel, on the left side of the gun, with his back to the axletree.

No. 5 places himself between the muzzle and wheel on the right side of the gun, with his back to the axletree.

No. 2 places himself between the breech and wheel on the left of the gun, with his back towards the axletree.

No. 1 places himself between the breech and wheel on the right side of the gun, with his back towards the axletree.

No. 3 places himself in front of No. 1, with his back towards him.

The limber comes up, reverses to its left, and when square, No. 1 gives the word "Halt," "Limber up."

The led horses are brought up by the horse holders in rear of the limber, and form up on the left of the lead horses.

Halt. Limber-up.—Nos. 2 and 3 raise the trail, No. 2 at the left and No. 3 at the right. No. 1 at the trail on the right of No. 3. Nos. 4 and 5 man the wheels on their own sides. When the trail is on the pintail, No. 2 keys and the detachment form the order of march.

Action Rear.—At the word, No. 2 unkeys, and assisted by Nos. 1 and 3, the whole being in the same positions as

when limbering up, lift the trail off the pintail and lower it gently to the ground. The numbers then place themselves as detailed for "Action." When the gun is unlimbered, No. 1 gives the word "Limber Drive on;" when it moves off to the rear, reverses to its right, and halts 10 yards in rear of and covering the gun.

Right Limber-up.—At the word, No. 1 seizes the trail-plate eye, No. 2 lifts at the trail handle on his own side; No. 3 assisting on the right of 2. The trail is thus carried round a quarter of a circle to the right. Nos. 4 and 5 man the wheels. As soon as the trail is lowered to the ground, the whole move under cover, as before detailed. The limber moves up on the right; and when it is square, No. 1 gives the word as before, "Halt," "Limber up."

Halt, Limber-up.—As before detailed.

Action Left.—At the word, No. 2 shifts to the trail-plate eye, unkeys, and, assisted by Nos. 1 and 3, unlimbers, and carries the trail round a quarter of a circle. Nos. 4 and 5 man the wheels. The limber moves off to the right, reverses to the right, and halts in the position as before detailed.

Left Limber-up.—At the word, No. 2 lifts at the trail-plate eye, No. 3 at the trail handle on his own side, No. 1 assisting on his right. The trail is then carried round a quarter of a circle to the left. Nos. 4 and 5 man the wheels, and the whole get under cover. The limber moves up on the left, and when it is square, No. 1 gives the word, as before, "Halt," "Limber up."

Halt, Limber-up.—As before detailed.

Action Right.—No. 1 shifts to the trail-plate eye, No. 3 moves round the trail, and places himself on the right of No. 2; 4 and 5 man the wheels. The gun is unlimbered, and the trail carried round a quarter of a circle. The limber moves off to the left, reverses to the left, and halts in the position as already detailed.

Front Limber-up.—The same as "Right Limber-up," except that the trail is moved round half instead of a quarter of a circle. The limber comes up on the right of the gun and the detachment horses on the left. When

the limber is square, No. 1 gives the word as before detailed, "Halt," "Limber-up."

Halt, Limber-up.—As before detailed.

Action Front.—The gun is moved as in "Action Right," except that the trail is carried round half instead of a quarter of a circle. The limber goes off to the right-about, when sufficiently to the rear, reverses to its right, and halts, as before detailed.

In bringing up the limber, No. 9 is between the shafts, No. 7 at the point of the near shaft; No 8 at the point of the off shaft; and No. 6 in rear of the limber.

Note 1.—In coming into "Action" and "Limbering up," on no account is the trail to be raised higher than to admit of its being detached from and attached to the limber.

Note 2.—The instructor will be very careful that the men do not throw down the trail violently, but that they lower it gently on the ground. These are points that cannot be too strictly adhered to.

Drill with diminished Numbers.

2 Nos.

No. 1 commands, lays, serves ammunition, makes ready, and fires.

No. 2 sponges, rams home, takes out and puts in vent-piece, screws up, and unscrews the breach.

3 Nos.

No. 1 commands, lays, makes ready, and fires.

No. 2 unscrews the breech, takes out the vent-piece, sponges, and rams home.

No. 3 serves ammunition, puts in the vent-piece, and screws up the breech.

4 Nos.

No. 1 commands and lays.

No. 2 screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready and fires.

No. 3 serves ammunition, and traverses with the hand-spike when necessary.

No. 4 sponges and rams home.

12 AND 9-PR. ARMSTRONG GUNS.

To dismount the Gun and Carriage.

"Prepare to dismount the Gun."—At the word, No. 1 takes out the tangent scales, and places them in the right axletree box; takes out also pin, washer, and bolt of elevating screw, and places them in the same box; then doubles to the front, ready to man the drag-rope on his own side.

No. 2 removes the water bucket 5 yards to the left of the gun; he then takes the drag-rope from No. 7, makes an over-hand knot on it in the centre and round the breech-screw, in front of the tappet ring, passes the end of the rope on his side through the trail handle, and stands ready to raise the trail.

No. 3 removes the two handspikes, places them five yards to right of the gun, passes the other end of the drag-rope through the trail handle, and stands ready to raise the trail.

No. 4 removes the two sponges five yards to the left of gun; removes the left cap-square, and places it close to sponges; mans the left wheel.

No. 5 removes right cap-square, and places it close to handspikes; mans the right wheel.

No. 6 stands ready to lift at trail eye.

No. 7 brings up a drag-rope which he gives to No. 2, doubles up to muzzle, to assist No. 1 in hauling gun out of trunnion holes.

Dismount the Gun.—Nos. 2, 3, 6 raise the trail; 4 and 5 man the wheels; 1 and 7 stand to the drag-ropes, haul the gun out of the trunnion holes, and steady it on its muzzle. 2 and 3 pass the drag-rope to 1 and 7 after trail has been raised.

"Lower the Trail."—Run the carriage to the rear.

The drag-ropes are then manned by all the Nos. on their own sides, and the gun is lowered on to a handspike placed by No. 3 at right angles to the axis of the gun, and so as to catch the breech-band on the gun being lowered.

Care to be taken by No. 1 in lowering the gun that lever does not get injured against the ground.

Dismounting the Carriage.

Prepare to dismount the Carriage.—Nos. 4 and 5 take out linchpins and washers, and place them near the cap squares.

The Nos. then post themselves as follows :—

No. 1 at the breast, 2 and 3 in rear of, 4 and 5 in front of axletree. They all lift together; 6, 7, 8, and 9 take off the wheels, and lay them dish downwards.

Mounting is the reverse of the above.

2 and 3 lift the handspike in raising the gun on to its muzzle.

CHANGING WHEELS WHEN THE LIFTING JACK IS NOT AT
HAND.

The Right Gun Wheel disabled.

No. 3 takes a handspike off the carriage, and passes one end of it from rear to front under the axletree to Nos. 2 and 4, who man it on that side. No. 5 double mans it on the side of No. 3 in the rear. The whole place themselves with their backs towards the gun.

No. 1 removes the linchpin and washer, and places himself in rear of the right wheel, ready to lift it off the axletree-arm.

Nos. 6, 7, and 8 double to the rear, and lift the spare wheel from off the waggon, No. 8 mounting on the foot-board, Nos. 6 and 7 lift from below. As soon as the wheel is clear of the waggon, No. 7 runs it up to the gun, and as soon as it is opposite the right wheel he halts and changes from the rear to the front of it, ready to assist in lifting it on. No. 6, as soon as the wheel is off the waggon, doubles up and places himself in front of the disabled wheel, ready to assist No. 1 in lifting it off. No. 9 places himself outside the left wheel.

Lift.—At the word, Nos. 2, 3, 4, and 5 lift at the handspike until the wheel is off the ground. Nos. 8 and 9 lay hold of the top of the left wheel, and use their weight and strength in bearing the right wheel from off the ground. Nos. 1 and 6 lift off the wheel, which is immediately run to the rear by No. 6; and No. 1 shifts to the rear of the new wheel. Nos. 1 and 7 lift the new wheel on the axle-

tree, and as soon as it is on, Nos. 2, 3, 4, and 5 withdraw the handspike. No. 1 puts on the washer and linchpin, and No. 7 doubles to the rear to assist Nos. 6 and 1 in lifting the disabled wheel on to the waggon body.

The detachment then fall into their proper places.

The left wheel, when disabled, is changed in a similar manner, only that the wheels are brought up and run back on the left side of the gun instead of the right.

CHANGING WHEELS WITH A LIFTING JACK.

Gun and Limber Wheels.

Right Gun Wheel disabled.

Nos. 1, 2, 3, 4, and 5 prepare to remove the wheel as above described.

No. 6 holds up the near limber shaft, whilst No. 7 takes out the linchpin and removes and replaces the off shaft.

No. 8 takes the lifting jack from off the footboard of the limber, places it under the axletree, and lifts the wheel clear off the ground. He then places himself in rear of it, ready to lift it off the axletree.

No. 9 places himself in front of the limber wheel, and assists No. 8 to lift it off. As soon as it is off, No. 8 runs it up opposite the gun wheel, shifting when he has halted, from the rear to the front of it, ready to lift it on to the axletree arm of the gun carriage. As soon as the limber wheel is off, No. 9 doubles and places himself in front of the disabled gun wheel, ready to lift it off.

Lift.—At the word, Nos. 2, 3, 4, and 5 lift at the handspike until the disabled wheel is clear of the ground, when Nos. 1 and 9 lift it off, and the latter number runs it to the rear. No. 1 shifts to the rear of the wheel which has been brought up, and, assisted by No. 8, lifts it on to the axletree arm. No. 1 replaces the washer and linchpin, and No. 8 doubles to the rear to assist No. 9 to lift the disabled wheel on to the axletree arm of the limber, No. 8 being in front, and No. 9 in the rear.

As soon as the disabled wheel is on the limber, No. 7 replaces the off shaft and linchpin, and No. 6 lets down the shafts to the ground.

No. 8 removes the lifting jack, and replaces it on the foot-board of the limber, and the detachment fall into their places at the gun.

The wheels on the left sides of the gun and limber are changed in a similar manner, except that Nos. 6 and 7 are not engaged at the shafts, and might therefore assist at the gun in bearing the left wheel from off the ground in a similar manner to that directed for No. 9 above.

Shifting Shafts from double to single Draught, and the Converse.

Shift the Shafts from double to single Draught.—Supposing the gun to be unlimbered, No. 1 faces to the right about, and gives or repeats the word of command.

No. 2 takes the hammer from the gun carriage.

Nos. 2 and 3 double to the rear. No. 2 places himself on the outside of the near shaft, and with the hammer unbolts it. He then hands the hammer to No. 3, and holds up the near shaft. No. 3 removes the linchpin and washer from the off axletree arm.

No. 7 places himself between the shafts; takes out the near one, and shifts it from the left centre loop to the left loop; then turns to the right about; disengages the off shaft from the axletree arm, and places it in the right centre loop, and on the iron arm underneath the limber.

No. 3 supports the off shaft (standing outside of it) whilst Nos. 2 and 7 are shifting the near one; and when this is done, with the hammer he takes out the linchpin and removes the washer from the iron arm underneath the limber; then replaces the washer and linchpin on the off axletree arm, and keys up the off shaft underneath the limber, when No. 7 has shifted it.

The numbers then double to the gun. No. 3 gives the hammer to No. 2, who replaces it on the carriage; and No. 1 turns to the front.

Shift the Shafts from single to double Draught.—No. 1 faces to the right about, and gives or repeats the word of command.

No. 2 takes the hammer from the carriage, and hands it to No. 3. They then double to the rear. No. 2 supports the near shaft (standing outside of it), whilst the off one is

being shifted. No. 3 places himself outside the off shaft, and unkeys it underneath the limber ; he then takes out the linchpin, and removes the washer of the off wheel.

No. 7 places himself between the shafts, and as soon as No. 3 has unkeyed the off shaft, he disengages it from the iron arm underneath the limber, withdraws it from the loop, and places it on the axletree arm ; he then turns to the right about, and takes hold of the near shaft.

No. 3 as soon as No. 7 has adjusted the off shaft on the axletree arm, replaces the washer and linchpin on the latter ; and then puts on again the washer and linchpin of the iron arm underneath the limber ; he then hands the hammer to No. 2, and holds up the off shaft whilst the near one is being shifted.

No. 2, on receiving the hammer from No. 3, unbolts the near shaft ; No. 7 shifts it to the left centre loop, where it is then bolted on by No. 2.

The whole of the numbers then double to their posts at the gun. No. 1 turns to the front ; and No. 2 replaces the hammer on the carriage.

Note.—Any disabled shaft may be shifted and replaced in a similar manner to that laid down above.

Mounting and Dismounting the Gun Detachments.

At the word prepare to mount, the Nos. run to their respective places. No. 2 in rear of off limber box, No. 3 in rear of near limber box, and place their inner feet on the trail handle.

Nos. 1, 4, 5, 6, and 7 run to their horses, which have been brought up in their proper places. When all the Nos. are in their places and ready, the No. 1 gives the word mount, the men mount, and No. 11 then reins back to his proper place in rear of No. 1 and on the right of the rear rank.

Action.—At the word the numbers dismount at once, and repair to their posts at the gun.

Note.—The numbers, when seated on the carriages, are invariably to lay hold of and retain in their grasp the guard irons and hand leathers provided for their security when mounted.

ON RANGE, ELEVATION, AND DEFLECTION.

A constant elevation of 6' was originally given on the sights of the Armstrong guns of all calibres, except the 110 pounder and new pattern 40 pounders, which have always been sighted true. The distances recorded in the following table are therefore virtually those due to the apparent elevation, *plus* the constant 6' given as described, and when guns are marked TRUE SIGHTED, it must be remembered that the elevation to be given should be 6' greater than that of the tables until corrected by actual observation. Tables of mean ranges are only an assistance to the judgment of the officer, who must consider the character of the day, the state of the wind, and many variable conditions.

In every case the gun is supposed to be pointed at the object intended to be struck, and the elevation is what should strike that object. The distances therefore are not, as heretofore usual, ranges to the first graze on the plane, but somewhat less.

The new pattern Time Fuzes having a scale of inches, the length of fuze corresponding to each observed time of flight is added. The scale reads to half tenths, and the pointer should be set a very little short of the time of flight.

The constant elevation was ordered to be done away with in 1862 (Circ. 532) and none of the double sighted guns will have it.

When the pointer is set at zero, the flame produced by the action of the percussion hammer flashes directly through the *magazine*, round the conducting channel, and into the shell, which then explodes at about 150 yards from the gun. It can be made to explode still nearer, and act nearly as common case, by pricking through the ring of composition at zero.

TABLE showing the Degrees of Elevation and Amount of Deflection which it is necessary to give for certain Ranges up to 3,540 yards. The Table has been compiled from practice with the 12-pounder Gun; Charge $1\frac{1}{2}$ lbs.; Weight of Shell, $11\frac{1}{4}$ lbs., from which the Elevation of the other natures of Ordnance (Armstrong) can be deduced by the following rules:

for the 40-pr. Shot or Shell, add - - - 8'
 „ 110 - - - - - 23'

	Ranges.	Mean Elevation for 12-pr. Gun.	Deflection. *
	Yards.	° /	/
	100	0 8	12 Right
	200	0 16	11 „
	300	0 25	11 „
	400	0 35	10 „
	500	0 46	10 „
Add 15' for every 100 yards.	600	0 58	9 „
	700	1 10	9 „
	800	1 22	8 „
	900	1 35	8 „
	1,000	1 50	7 „
Add 17' for every 100 yards.	1,100	2 6	6 „
	1,200	2 23	5 „
	1,300	2 39	4 „
	1,400	2 58	4 „
	1,500	3 17	3 „
	1,600	3 35	3 „
	1,700	3 53	2 „
	1,800	4 11	1 „
	1,900	4 30	1 „
	2,000	4 49	0 „
Add 20' for every 100 yards.	2,100	5 10	1 Left
	2,200	5 32	2 „
	2,300	5 53	3 „
	2,400	6 15	4 „
	2,500	6 36	5 „
	2,600	7 8	6 „
	2,700	7 23	7 „
	2,800	7 46	8 „
	2,900	8 7	9 „
	3,000	8 30	10 „
	3,100	8 56	11 „
	3,200	9 22	12 „
	3,300	9 48	13 „
	3,400	10 14	14 „

* With the new pattern sights there is no necessity for giving any deflection, except for wind, when blowing across the range, or when one wheel of the gun carriage is higher than the other.

Range and Deflection.

The velocity of these projectiles diminish slowly with the range; consequently, the range will be nearly as the time of flight. The velocity at the muzzle is about 1,200 feet per second; at 1,000 yards, about 920 feet; and at 2,000 yards, about 800 feet per second.

From 500 to 1,000 yards, 1 minute of elevation gives 7 yards in range.

To these must be added the allowance for wind, and this depending upon its force and direction.

From 1,000 to 1,500 yards, 1 minute gives 6 yards; at 1,500 and upwards, 5.

The Armstrong guns always throw to the right, increasing with the range; this is termed a constant deflection, and must be allowed for. This allowance was made in the guns of the original construction by placing the rear sight so as to be correct at 2,000 yards, but in the 12-prs. of reduced lengths, the 9-pr. and in all guns now sighted, it is made by inclining the tangent bars at an angle of $2^{\circ} 16'$ to the left.

A practical rule is, that each minute of deflection on the sight gives a difference of an inch in every hundred yards of range.

Suppose, then, a trial shot to be fired at 8 degrees of elevation, which gives an average range of nearly 3,000 yards, the constant deflection at 3,000 yards requires, as we have seen, 10' deflection left: if, then, having given these 10 minutes, we estimate that the shot has struck two yards to the right of the object aimed at, we have 72 inches divided by 30, the number of hundreds of yards of range = $2\frac{1}{2}$ minutes nearly, deflection to the left to be added to the 10' constant deflection.

Deflection on the sight is always given to that side to which it is wished to throw the shot; thus 5 minutes deflection to the right, at a range of 1,200 yards, will throw the shell 12 times 5 inches, or 5 feet to the right.

Aim.

Direction is given by bringing the bottom of the V, the top of the trunnion sight, and the object aimed at, in the same straight line.

Elevation is given by setting the tangent scale to the

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